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THE SUBJECTIVE FACTOR IN GREEK ARCHITECTURAL DESIGN

THE first impression of the Greek arts of design is that made by their simplicity, their regularity, their bilateral symmetry, and their refinement of form. The earlier analyses of Greek art were therefore made for the purpose of determining certain canons of proportion, by which, it was assumed, these simple and regular characteristics might be reduced to a science, and the compelling charm of the Greek work reduced to a formula. It was assumed also that the reproduction of this charm would then no longer wait on special artistic perception, but once so formulated, would be thereafter at the service of all intelligent workers.

This thought was fostered by the fact that, in reference to the proportions of the sculptured human form at least, it had long been known that not one canon only, but several, existed among the Greeks.¹ As to the influence of these canons upon contemporary work it is difficult to judge. The verdict of Balcarres is that "Every country has produced at one time or another some schedule of formulae to guide the artist and indeed a canon is both natural and necessary, for we judge a dwarf or deformity by an involuntary canon of measurement. It only becomes misleading when applied with excessive zeal, when imposed as a check upon creative forces, or where it limits the faculties of imagination."² In other words, it is misleading when it is permitted to become the final authority.

In reference to architecture a canon of proportion was definitely stated by Vitruvius,³ and there can be little doubt that this canon had some weight in the Roman practice of his day. He makes no personal claim to it, but sets it down as the way in

¹ For example, the square or massive canon of Polyclitus, and its emendation by Lysippus.

² *Evolution of Italian Sculpture*, p. 128.

³ *De Architectura*, III, 1, etc.

which work ought to be carried out. However much earlier than Vitruvius it may be, even though he often illustrates it by Greek examples, nevertheless, the slightest examination of the facts shows that no simple scheme of proportions had any real weight with Greek architects at any time. It is important to discuss this point briefly, since a contrary impression is prevalent. I shall first quote the opinion of authorities on both sides. Penrose says,¹ "It (the Doric order) received from Greek architects great refinements, of a scientific and artistic character, particularly in the mathematically adjusted profiles of the mouldings and the curvatures of the main vertical and horizontal lines applied as delicate corrections of an optical nature, together with a rigorous but very practical scheme of proportion, which undoubtedly contributed to the perfection of the works of the best period." Again after giving the dimensions of the stylobate of the Parthenon, and calling attention to the fact that the width and length are almost exactly in the proportion of four to nine, he goes on, "It was almost invariably the case that a Greek temple was so planned that the length and breadth of the stylobate formed with each other a ratio in low numbers (it was not always the upper step that was taken, but one of the steps of the stylobate, which were generally three in number). There is scarcely an exception to this rule of proportion." Fergusson,² Percy Gardner,³ and many other writers may be quoted to the same effect. Penne-thorne,⁴ after recognizing that the dimensions of the principal members and groups of members in the buildings on the Acropolis at Athens are incommensurable, shows that a point of view can be chosen for each building, from which these members subtend commensurable arcs. Without questioning the accuracy of his figures, there remains the question of probability; whether it is likely that these buildings, which are visible from all sides, and are accessible in many directions, were so designed that each would give the desired effect from one or two points only.

The quotations given above are, I believe, typical of the opinions of writers who are convinced that a canon of proportions for temples was a potent and living force, as Balcarres says of the canon for the figure. Before quoting on the other side of the

¹ In Whibley, *Companion to Greek Studies*, p. 220.

² *History of Architecture* (Edition of 1887), I, p. 251.

³ *Principles of Greek Art*, p. 21.

⁴ *The Geometry and Optics of Ancient Architecture*.

question, I wish to call attention to two or three points. In the citation from Penrose we read, "It was not always the upper step that was taken, but one of the steps of the stylobate, which were generally three in number." It is not easy to obtain the figures necessary to discuss this question adequately, because authorities differ and dimensions are often roughly measured, but in the table given below I have endeavored to use the best available data and have in each case reduced the proportions of the upper step to decimal form, and have interpolated the decimal values of simple numerical ratios in order. These are numerous enough, so that with option of first, second, or third step the measured ratio must often be quite near to one or another. Moreover, it would be natural and workmanlike to use multiples of a common unit in places where the eye does not call for a more subtle relation; as here, for instance, in the length and breadth of a large temple, where the greater part of the stylobate is concealed by the cella and the peristyle, and where the lines recede from the eye at such angles that an accurate comparison is impossible.

It will be seen from the first table that the ratio of the length to the breadth of the stylobate varies greatly in the different temples; that is, from 2.081 to 2.678, and that there was no one proportion to which all conformed, even approximately.

Neither are there a few distinct groups only, although of the nineteen temples chosen because of the probable accuracy of the available measurements, eight appear to belong to four groups of two each, and in three cases these also correspond to the simple ratios 4:9, 3:7, and 3:8, respectively. I cannot believe that this correspondence is due to anything more than mechanical convenience in laying out in a place where there existed no higher consideration, such as the effect upon the eye. Especially does this seem true, since the ratios, in the case of the other temples, are so scattered through the table that no order is evident. Even the usually accepted statement that the older temples are longer proportionally than the later ones, is not wholly true. The temple of Ceres at Paestum is believed to be nearly a century older than the Theseum, but is shorter proportionally, while one of the longest temples, that at Bassae, is the work of the architect of the Parthenon.

I have also given a table of the proportions of the columns of a number of Doric temples, the heights being stated in terms of the lower diameters. This table has been rearranged from Anderson

TABLE SHOWING THE RELATIVE LENGTHS OF GREEK TEMPLES IN TERMS OF THE WIDTH MEASURED AT THE STYLOBATE, THE DECIMAL VALUES OF SOME SIMPLE INTEGRAL RATIOS BEING INTERPOLATED.

1:2	2.000
Girgenti, Olympieum, (Koldewey & Puchstein)	2.081
Aegina, Aphaia, (Furtwängler)	2.088
7:15	2.143
6:13	2.166
5:11	2.200
Selinus "G", (K. & P.)	2.203
Paestum, "Basilica", (K. & P.)	2.213
4:9	2.250
Athens, Parthenon, (Penrose)	2.251
Girgenti, Juno Lacinia, (K. & P.)	2.254
Paestum, Ceres, (K. & P.)	2.263
7:16	2.286
Athens, Theseum, (Penrose)	2.316
Olympia, Zeus, (Curtius & Adler)	2.316
Segesta, (K. & P.)	2.330
Girgenti, Concord, (K. & P.)	2.331
3:7	2.333
Selinus "A", (K. & P.)	2.339
5:12	2.400
Girgenti, Heracles, (K. & P.)	2.407
7:17	2.428
Paestum, Poseidon, (K. & P.)	2.471
2:5	2.500
Selinus "F", (K. & P.)	2.550
7:18	2.571
5:13	2.600
Bassae, Apollo, (Fletcher & Fletcher)	2.607
Selinus "C", (K. & P.)	2.664
3:8	2.666
Olympia, Hera, (Curtius & Adler)	2.667
Selinus "E", (K. & P.)	2.678
4:11	2.750

and Spiers,¹ without verification. Here, if anywhere in the building, the ratio is apparent, obvious, and here if anywhere the canon should call for a fixed ratio, such as is called for in the architectural schools to-day. Yet, on the contrary, we find a long series, ranging from 4.07 to 6.58, the examples being well scattered through the list. It is usually stated that the earlier columns are heavier, the later ones relatively slighter, but again we find notable exceptions. The stoutest columns, those in the

¹ *The Architecture of Greece and Rome*, pp. 317 ff.

TABLE OF THE HEIGHTS OF DORIC COLUMNS IN TERMS OF THE LOWER DIAMETER.

Paestum, Poseidon,	4.07	Segesta,	4.79
Corinth,	4.16	Selinus, "F"	5.01
Paestum, Ceres,	4.22	Bassae, Apollo,	5.17
Paestum, "Basilica"	4.42	Assos, Athena,	5.19
Syracuse, Apollo,	4.47	Girgenti, Aesculapius,	5.19
Selinus "D"	4.48	Aegina, Aphaia,	5.30
Selinus "C"	4.52	Olympia, Metroon,	5.38
Girgenti, Hera,	4.58	Girgenti, Castor and Pollux,	5.46
Selinus "E"	4.60	Athens, Parthenon,	5.48
Selinus "A"	4.62	Rhamnus, Nemesis,	5.55
Syracuse, Athena,	4.69	Rhamnus, Themis,	5.55
Olympia, Zeus,	4.72	Argos, Hera,	5.63
Girgenti, Concord,	4.73	Eleusis, Artemis Propylaea,	5.75
Girgenti, Heracles,	4.74	Athens, Theseum,	5.77
Girgenti, Zeus Olympius,	4.75	Sunium, Poseidon,	6.00
Selinus "G"	4.77	Nemea, Zeus,	6.58
Metapontum,	4.78		

temple of Poseidon at Paestum, and the slenderest (with one exception), belong, it is believed, to the same decade, and both are of the period of the Parthenon. The few groups in the table to which any meaning can be attached, are those which show the existence of local conventions, *e. g.*, the Girgenti group, 4.73, 4.74, 4.75, and the Rhamnus group, 5.55. This is in itself evidence against a universal canon such as is supposed to have existed, but is exactly what might have been expected as a result of local shop-rules, such as are known to every mason and carpenter even to-day.

In the passage cited Fergusson admits that the "ratios are in some instances so recondite . . . that many would be inclined to believe that they were more fanciful than real," while Percy Gardner grants that the subject is a complicated one, and that "to understand these proportions is an elaborate matter." Here may be added the opinion of Statham,¹ "It is probable that the Greeks had some very distinct rules as to the relative proportions of parts, but the subject is so obscure historically, and the different theories started about it are so contradictory, that it is not worth while to attempt to compare or analyse them in an outline treatise of this description."

I shall now quote opinions on the other side of the case. Porter

¹ *Short Critical History of Architecture*, p. 130.

says,¹ "The Greeks were always artists, and consequently free designers. . . ." Elsewhere in the same work, he says, "In Greece the orders were never reduced to dry formulas as in Roman and Renaissance times, and the various examples show among themselves a charming and refreshing variety that allows almost any characteristic of the order, however salient, to be varied according to the taste and discretion of the architect." On this side of the question Sturgis² and Percy Gardner³ may also be read with profit.

I shall now give a quotation, cited by Professor William H. Goodyear in his important work on the Greek refinements, a book in which the author is not so much concerned to disprove the existence of architectural canons in general, as to work constructively, and to show the temperamental significance of the refinements. This is a matter to which I shall refer presently, but his citations bear so directly on the subject in hand that I shall put them in evidence here.

"In modern times great porticoes, of at least equally large dimensions, have been built, and yet we have not been able to achieve the same satisfactory effect. The cause is made clear by a close study of the ancient ruins, and we find then that the Greeks were not content to build their temples according to narrow rules or according to such a canon as Vitruvius or the modern architects, endeavor to establish, but that everything was with them a matter of feeling. They had the feeling which was encouraged by their high culture, and their happy climate, that straight lines have a cramped and stiff effect. They saw that nature avoids the rectilinear, and develops its most attractive forms in swelling curves and so they endeavored to make the construction of their buildings resemble nature, to transfer to them the beautifully curving forms which surrounded them, and thus to infuse the lifeless forms of art with a breath of living nature. Thus were their temples of worship built, and thus we find in them a system of curving lines whose perfect logic fills us with wonder and astonishment at the refinement of feeling which they express."⁴

¹ *Medieval Architecture*, I, 9; I, 4; etc.

² *History of Architecture*, I, 178.

³ *Principles of Greek Art*, p. 39.

⁴ Joseph Hoffer, *Wiener Bauzeitung*, 1838, as translated by Goodyear, *Greek Refinements, A Study in Temperamental Architecture*, p. 83.

Professor Goodyear also quotes from Burekhardt and Kugler who affirm with Hoffer that in the use of the refinements the Greek purpose (was it not rather the Greek instinct?) was "to give to apparently mathematical forms the pulsation of a living organism,"¹ to give "an effect of breathing life to this portion of the construction."² Professor Goodyear's own work also deals with the significance of the Greek refinements, especially with the curvatures, usually convex, of stylobate and architrave in most Greek and in some other temples. The contention of the canonists has been that the entasis of the column was to prevent an appearance of hollowness or concavity of the conical form, which, so it is claimed, a column would have, if it had diminution only and no entasis. Their contention is that the stylobate was made convex lest it should appear concave, and in order that the base of the pediment-triangle should not appear to sag, the entablature was made to rise slightly in the middle. The statement is general that the intention of the Greek architect was to secure a rectilinear effect by such "optical corrections."³

Fergusson,⁴ says, "In like manner, the architrave in all temples was carried upward so as to form a very flat arch, just sufficient to correct the optical delusion arising from the interference of the sloping lines of the pediment. This I believe, was common to all temples, but in the Parthenon the curve was applied to the sides also, though from what motive it is not so easy to detect." He would have been still more troubled to account for the curves on the optical correction theory had he seen the long list of curvatures now known to exist, both in elevation and in plan, generally convex, but sometimes concave (*e.g.*, at Segesta, Paestum, Cori) in the lines of the flank as well as in the façades.⁵

It will thus be seen that the case for the canon offers many difficulties to its defenders, and that of recent writers, Statham, who believes that some sort of canon probably existed, passes the subject by with the comment that the attempt to recover and establish it has led merely to contradictions and confusion. Moreover,

¹ Burekhardt, *Der Cicerone*, 2nd. ed., p. 5, as translated by Goodyear, *op. cit.* p. 91.

² Kugler, *History of Architecture*, I, 199; quoted by Goodyear, *op. cit.* p. 87.

³ Statham, *Short Crit. Hist. of Arch.*, p. 89; Fletcher and Fletcher, *Hist. of Arch.*, p. 51; Anderson and Spiers, *Arch. of Greece and Rome*, p. 76; etc.

⁴ *Op. cit.* I, p. 250.

⁵ Goodyear, *op. cit.*

it would seem that the best opinion is tending back to the idea originally expressed by Hoffer, and now ably supported by Good-year, with new facts at his disposal, the idea that to the Greek, design was a matter of feeling. This is far from saying that this feeling was irresponsible, or without a guide. On the contrary, the fact that all Greek motives, derived from whatever source, Egyptian, Asiatic, or native, gradually conformed to a distinct and special Hellenic ideal, forbids this thought. For the moment then, we will regard the theory of a canon as unproved; later we will seek a ruling instinct which will help to explain the existence of special Hellenic types.

II

Closely allied to the idea of a canon of mathematical proportions in Greek architecture, is the idea of the dominance of conic sections in Greek design, especially in ornament, in the profiles of architectural mouldings, in vase-forms, and so forth. It is natural enough, therefore, that in almost every work on the subject in which the canon is defended, we find that the profiles of the mouldings are described as parabolic or hyperbolic, etc., and in Pennethorne's work there are plates of carefully drawn contours analyzed into their conic components.

If these writers had been able to show a mathematical formula for the proportions of the stylobate, or of the column, where dimensions are the essentials of design, then we might have passed to the examination of the moulding contours with the hope of finding for them also a simple geometric basis. But if on the contrary, the design was an expression of vitality and fitness of organic relations in construction, an expression addressed to the mind, it is true, but addressed to it in the form of a visual image and not as a mathematical formula, then it would be strange if the moulding contours had been considered primarily as geometric expressions. For while it was not an unreasonable quest to seek for mathematical relations where the eye would see such relations if they existed, yet, if no such relation were found, we should have little reason to expect a geometric meaning in these contours. The reason for this is that a moulding appears very seldom as the contour of a perpendicular section. In its function it is a surface and not a contour, a surface whose character is emphasized by its projection, its texture or enrichment, and by its shadows, and if its appeal is to the eye, it is the surface-form

and not the contour which is significant. Nor need it disturb us that Pennethorne could resolve these simple curves into arcs of circles, ellipses, parabolas, and hyperbolas, or nearly so, for there are innumerable conic curves, and it has been shown that curves of far greater complexity admit of mathematical analysis.

I shall therefore content myself with recalling the fact that the moulding-contours vary as greatly and as universally as do the main proportions, and shall not undertake a laborious disproof of the conic theory. It is linked with the canon of proportion, and the two theories stand or fall together, according as we find that the Greeks designed as mathematicians or as artists.

The moulding which has been most studied, and for which the greatest amount of evidence is available, is the echinus of the Doric capital, and anyone who has examined the works of Greek architecture must have noted that the forms taken by the capitals are almost characteristic of particular buildings. I will add that wherever I have been able to compare analogous mouldings from different buildings, the same great variety appears.

It is perhaps pertinent to show here that in the surface-enrichment, the carved ornament of these mouldings, there is, aside from differences in different buildings, noticeable variety in the separate units of the design in a given moulding, also that in bilateral and other regular forms the symmetry is rarely exact. This can be seen readily in the Erechtheum, our best example of rich ornament in a major work of the fifth century at Athens. For example, in the anthemion-band on the necking of the column-caps on the North Porch, the units are not strictly alike, as they would be in good modern work, or as they would have been here, if the Greeks had felt that uniformity was a virtue in design. As is frequent in this kind of band, there are two types of plant form which alternate with one another to make the pattern. The examples of each type show such differences as are found in leaves from any given tree. I do not assume that the workman tried to make them different; he was perhaps concerned to make each fit its particular place, and be enough like the rest to avoid disorder in the design, and give it formality; I do believe that it never entered his head that they would be better if they were all exactly alike. The guilloche ornament on the upper tori of the bases of these same columns and of the antae is of two entirely different kinds, as is shown in the photographs (Figs. 1-3). Fur-

ther the rosettes on the trim of the great doorway are not designed on a series of concentric circles, nor are their petals exactly alike. Similar variations appear in the ornament which enriches the cyma reversa on the same jamb. The sharply-toothed leaves are, in general (omitting the points), of a triangular shape, but the fundamental form is in some cases almost rectilinear, sometimes the sides of the triangle are much curved; the leaves sometimes wider, sometimes narrower (Fig. 4). Close examination of the



FIGURE 1.—GUILLOCHE ON BASE OF COLUMN: ERECHTHEUM.

eggs of the much-injured egg-and-dart moulding on the parapet of the Porch of the Maidens shows that they are not and never were exactly alike (Fig. 5).

Such evidence as I have here presented would be superfluous if it were not that the regularity of Greek ornament has been greatly overestimated. This overestimate is largely due to the modern drawings of Greek ornament, otherwise carefully and accurately made, in which the repeating decorative units are drawn as if they had been exactly alike in the original work. These drawings, which illustrate some of the best books on the subject, show a kind of depressing monotony, like that of the

Danish reproductions of Greek vases, a monotony distinguishable from that of modern work only by its better proportions.

The fluidity of Greek design in ornament could be endlessly illustrated from minor works, vases, and stelae, except for the easy answer that these are only minor works and that the variations are due to carelessness! This, of course, implies that such excellent designers as the Greeks preferred obvious proportions, monotonous repetition and straight lines, whereas all other good designers, of whatever race or period, have preferred lines that turn or even fluctuate, proportions with an element of the unexpected, and ornament in which the second or third unit has still some interest after the first has been seen.

Finally, it is questionable whether the Greeks of the

formative period in Greek architecture had any knowledge of the conic sections. The culmination in Greek architectural design had been reached before the year 400 B.C., and its development had been proceeding in a definite direction for several centuries prior to that. On the other hand, the geometry of the conics begins with the school of Plato, of the fourth century. It is of course probable that they had been observed before they were made the subject of mathematical analysis, but if they had been so valued as to have been made the motive and basis of all archi-

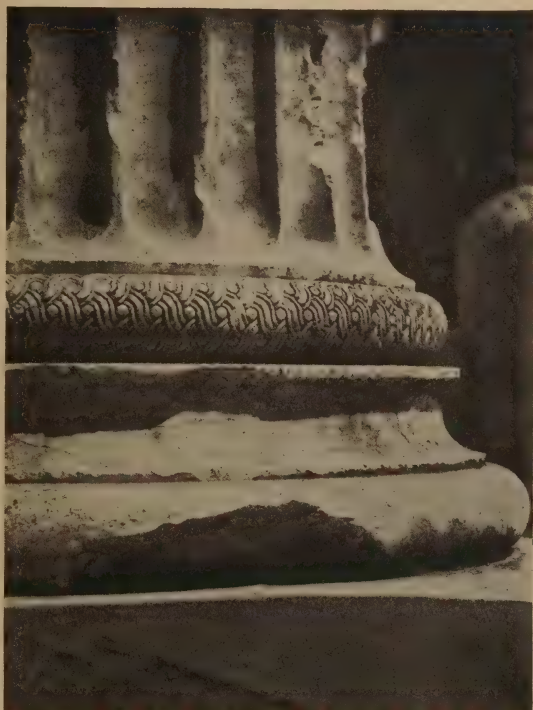


FIGURE 2.—GUILLOCHE ON BASE OF COLUMN:
ERECHTHEUM.

tectural design, is it likely that they would have had no scientific history? The construction of a given conic implies a very considerable scientific knowledge of its properties. As to Greek knowledge of these curves I quote from the article on "Conic Sections" in the 11th edition of the *Encyclopedia Britannica*: "The invention of the conic sections is to be assigned to the school of geometers founded by Plato at Athens about the fourth century, B.C. Under the guidance and inspiration of this philoso-

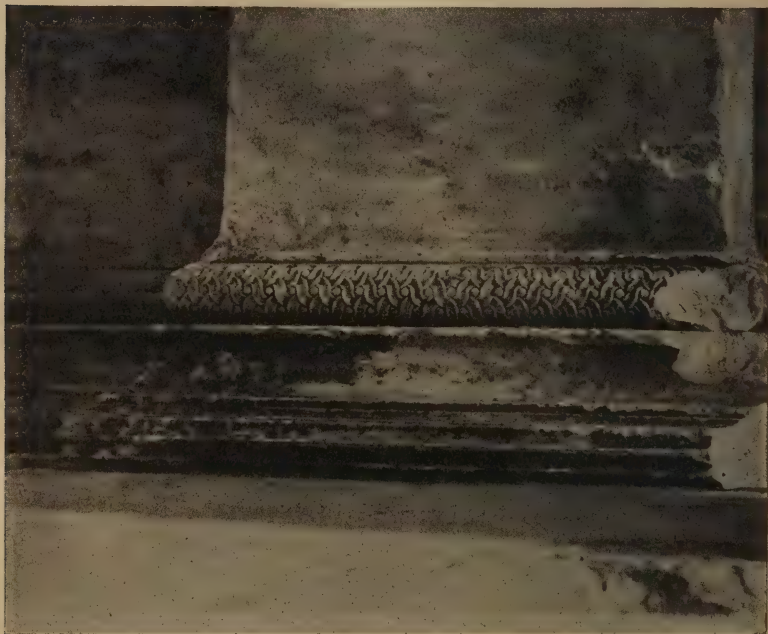


FIGURE 3.—GUILLOCHE ON BASE OF ANTA: ERECHTHEUM.

pher much attention was given to the geometry of solids, and it is probable that while investigating the cone, Menaechmus, an associate of Plato, pupil of Eudoxus, and brother of Dinostratus (the inventor of the quadratrix), discovered and investigated the various curves made by truncating a cone. Menaechmus discovered three species of cones (distinguished by the magnitude of the vertical angle as obtuse-angled, right-angled, and acute-angled) and the only section he treated was that made by a plane perpendicular to a generator of the cone; according to the species of cone he obtained the curves now known as the hyperbola,

parabola and ellipse. . . . But the greatest Greek writer on the conic sections was Apollonius of Perga, and it is to his *Conic Sections* that we are indebted for a review of the early history of this subject. . . . Prior to his time a right cone of definite vertical angle was required for the generation of any particular conic. Apollonius showed that the sections could all be produced from one and the same cone, which may be either right or oblique, by simply varying the inclination of the cutting plane." This was at the end of the third century, B.C., Plato is of the fourth, the great temples are of the fifth and sixth or earlier.¹

III

Although the case for the canon and the conics falls unproved, there was nevertheless a definite Hellenic standard.



FIGURE 4.—JAMB OF NORTH DOOR: ERECHTHEUM.

Throughout the period of Greek development we discern the influence of certain racial ideals. These were so fundamental that they acted with continuous pressure during many centuries. We have here to seek an ideal which completely dominated the artistic sense and the artistic product so that even those elements

¹ I am indebted to the late Dr. W. W. Baker, of Haverford College for the suggestion that Xenophon (*Mem.* 4, 7, 2-3), and Plato (*Rep.* 525ff; *Phileb.* 56), seem to indicate that no practical value was ascribed to higher geometry even in the fourth century.

that the Greeks borrowed,—and the Greeks borrowed freely,—were so transformed in their hands that the Hellenic stamp is unmistakable. Early or late, whether it comes from Sicily or Ionia, or from Greece proper, any work that comes from a Greek workshop is unmistakably Greek.

This ideal acted slowly through a long period of time; foreign motives and native were gradually transformed, and became

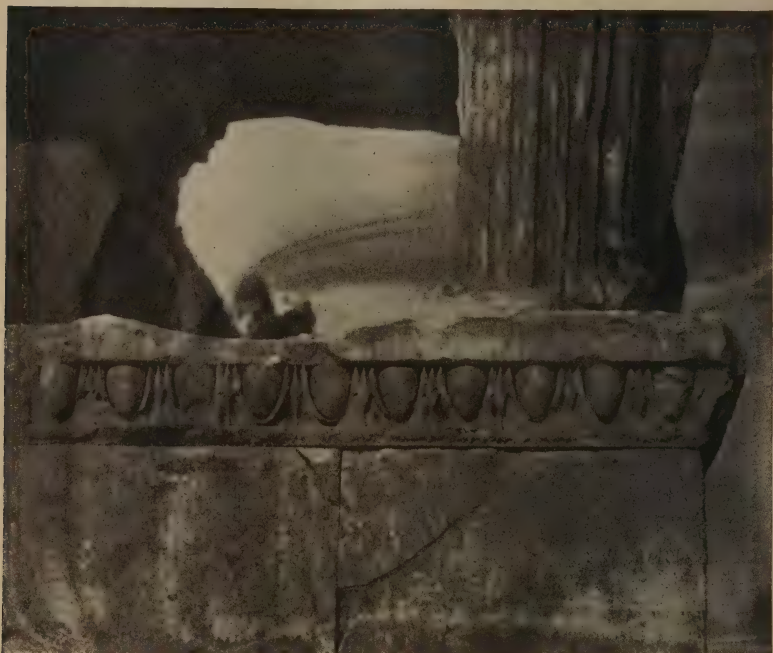


FIGURE 5.—MOULDING ON PORCH OF THE MAIDENS: ERECHTHEUM.

more and more Greek in the process. The doctrine of the accumulation of beauty is based on fact; a doctrine of the accumulation of Hellenism would be equally true and would include it.

The sources of Greek art must always be of interest; to the historian and the archaeologist most; to the artist less. To the latter it must be of first consequence to know, if possible, the nature of the ideal which transformed the Doric capital of the so-called Basilica at Paestum into that of the Parthenon, and the Apollo of Tenea into the Hermes of Praxiteles.

That this ideal was simple I do not believe; in the effort to

translate it into words, clumsy as the attempt must be, we can learn as much as that. Love of physical beauty was there, what we call fitness and reserve were there, intellectual clarity and system were there, and so forth.

That this ideal was analyzed or even recognized by the Greeks in general, is very doubtful. Like the Roman instinct for government, its greatest work was done before the intellectual horizon was wide enough to admit of analysis and generalization. There is some evidence that it is alive even to-day; not among those who seem most eager to come under its power, nor among scholars and philosophers, but among poor and unschooled craftsmen of Greek blood. A friend whose judgment can be trusted writes to me:—"The present day potters at Girgenti, Sicily, who are direct descendants of the Greeks, have no training in art, no sense of order, or of form as taught, but by some transmitted touch and feeling, or through association with the types of form, they can produce shapes of almost pure classic proportion."

I hope later to define one element of this ideal in reference to the arts of design; here I wish merely to note its existence, and to draw attention to certain elements, present in the arts of other nations, in which the Greeks had no share.

In the first place, the engineer's sense of construction was not Greek. Beside the Roman vaults, the domes of the East, or the rib-and-buttress system of medieval Europe, the structural method of the Greek is like the play of children with their blocks. The same lack shows itself in smaller works. Wooden chairs of the type shown in the stele of Hegeso indicate that the feeling for beauty of line was not checked by any strong sense of the treatment appropriate to a given material. Neither can the Greeks claim the highest rank in that kind of artistic integrity which shows itself in a close intimacy of function and form. In the best Gothic work the functional member blossoms forth into its natural ornament, while even in the best Greek work the ornament is often reminiscent of superseded structure, or at any rate is quite independent of that which exists. Nor have we any evidence that color, much as the Greeks used it, ever became the vital element in their art that it was in the splendid composite art of Byzantium a thousand years later.

It would appear then, and the best opinion tends this way, that it is in form and line, as such, that Greek art is preëminent, and

that the Greek ideal, whatever its nature, found its expression in the perfection of form and line.

I shall therefore discuss first the two great types of expressive line, and then see if we can trace the pressure of certain Hellenic ideals on the Greek type of perfection in form.

IV

Lines and forms in design are of two general types. The one is obviously descriptive of some fact or function; the second is what we call abstract. Of the first class is a portrait-bust or the naturalistic drawing of a flower, expressing natural facts, or a visible arch or lintel, expressing function. Of the second class are lines, bands or areas of color drawn or modelled on a surface, architectural mouldings in general, and ornaments carved like the egg-and-dart, for which there is no natural prototype.

It is the general fact, that, in order to preserve that unity or integrity which is one of the basic characteristics of works of art, natural forms or motives must be made to conform to certain conditions or limitations which govern the whole work, must be conventionalized, as we say. Otherwise they are merely attached to it, and are not a vital part of its structure. Odysseus tells his woes in hexameter verse, not in everyday prose, however impassioned; the statue in the niche on a cathedral must be a stone image of a man, a static part of a static whole, and not a real man precariously balanced where he has no business. This conventionalization obeys several laws. First, the image must conform to the material and the tools. The rosette carved in stone with chisel and drill will be one thing; that in wood, fashioned with a gouge, another; that beaten out of the red-hot iron with the hammer, still a third; that composed of marble tesserae in a mosaic, different again.

Again it must conform to the scale and the degree of projection determined for the whole building or other work of art which it is to adorn. If it is a picture for a wall, its perspective must be so modified and its realism so reduced that it will not "make a hole in the wall," as the saying is, or by its color affect disastrously the architectural scheme.

Further, and this is the most important fact for us, it must conform to the style and character of the whole work of which it is a part. That is, among stone rosettes, all good examples of the flower form conventionalized as to color, scale, material,

and tooling, there will still be Gothic rosettes, Renaissance rosettes, Roman rosettes, and Greek rosettes. The question is, what makes a rosette a Greek rosette? Perhaps it is something not essentially a part of the original flower-form. It is rather something racial, for it is related to the historic style throughout the building, not alone to the flower motive. At least, if it existed in the original flower, it existed there for the Greek eye and mind alone, which eye and mind found a similar quality in all objects of artistic value. The figures in the pediment, the horses and oxen in the frieze, are like the flower in this, that the same Greek sentiment breathes from them all.

We find a similar phenomenon in the abstract forms. That an abstract line can have intrinsic meaning and expressiveness

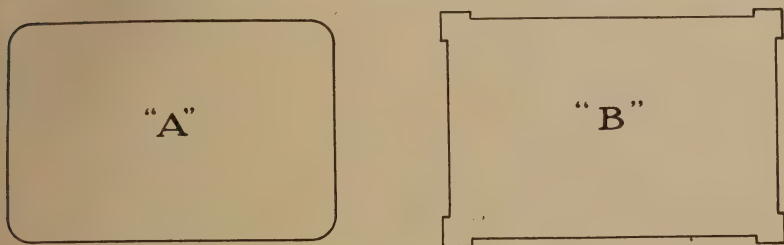


FIGURE 6.—WEAK AND STRONG CONSTRUCTION OF CORNERS.

is hardly likely; that it can be expressive of character is certain, but it is a derived meaning which it conveys. A border line is drawn around an inscription, to enclose it, as we say, as if we had fenced it in to keep it in its place (Fig. 6). If the rectangle has rounded corners as in "A" we feel its weakness; by a transfer of ideas we think of it as if of some actual fabric. We strengthen the corners exactly as we would reinforce the corners of a paper-box with metal or linen strips, or as we would strengthen the angles of a fortress with towers or bastions, and we find that the line has gained in its expression of strength, as in "B."

So also with the abstract forms of mouldings; the cyma recta is naturally expressive of elegance; if the convex element preponderates, it becomes clumsy, dull; if the concave, it becomes fragile. Moreover, this is as true of the expression in a piece of outline-ornament (as in a vase form on a Renaissance panel), as it is in sheer fact when the moulding is run in solid marble, the meaning in the former case being dependent upon the fact in the latter. The cyma reversa is naturally more sturdy in

character; like all the mouldings it has innumerable variants; some robust, some dull, some vigorous, vulgar, superficial, coarse, refined, and so on.

Thus there is in these ten or a dozen classic mouldings with their variations, a whole vocabulary, and in their relations a whole syntax, together composing a rich language. A well designed entablature is thus a poem full of meaning, addressed not merely to the pleasure-loving eye, but to the finer or ruder mind that lies behind the eye.

The same varied expression of character exists in the more or less abstract enrichment of the mouldings, for, particularly in Greek design, these by their shapes define and accentuate the surface on which they are modelled. Thus a fret, with its nearly straight lines, enriches a flat band, an anthemion pattern the cyma recta, the egg-and-dart the ovolo, the bead-and-reel the astragal. Thus, throughout a building, from its large structural basis to its slightest ornament, there is character proclaimed; proclaimed in a language as unmistakable and varied as that composed of spoken words, and in a great work of architecture the sentiment is consistent throughout. Moreover the sentiment of a Greek building is Greek throughout, that of a Gothic, Gothic throughout; natural forms are utterly transformed, artificial or abstract forms wholly conceived in a Greek spirit or in a Gothic spirit as the case may be.

V

The purpose of this essay is to suggest a possible source of the motive and character which so transformed the natural forms employed and which furnished the prototypes of the abstract lines and surfaces in Greek architecture.

I shall first quote again from Hoffer, "they endeavored to make the architecture of their buildings resemble nature, to transfer to them the beautifully curving forms which surrounded them, and thus to infuse the lifeless forms of art with the breath of living nature." This is, as far as I know, the earliest statement of the "vital motive" in Greek architecture, and the reader will remember that it refers to the fundamental lines. Since that time the "vitality of Greek art" is a commonplace of the text-books, but the idea has not been adequately developed. In a comparatively recent book,¹ Charles H. Moore says, "In Gothic

¹ *Development and Character of Gothic Architecture*, p. 22.

sculpture a singular correspondence with the spirit of Gothic construction is noticeable. As what may be likened to a living organic principle distinguishes this construction, so does a vital principle find expression in Gothic sculpture to an extent unequalled in the sculpture of any other school or epoch. An appreciation of the animating spirit of nature, from which all the elements of this sculpture are drawn, is invariably displayed. Whether in subordinate ornamentation—the enrichment of capitals, the running patterns of string-courses, the *voussoirs* of archivolts,—or in the sculpture of the human figure itself, this expression of life is always marked. It is true that in the ornamental sculpture of the best previous schools of art a vital character is often noticeable, and is seldom wholly wanting. Most Greek ornamentation, though severely abstract and conventional, owes its essential beauty to qualities of line and surface that suggest life. And in Greek, as in Gothic, art these qualities were plainly derived from natural organic forms. I do not mean to affirm that there was in the mind of the Greek carver, when elaborating his ornament, any direct and conscious reference to nature, or any imitative intention. But the inspiration of nature is clearly apparent, even in the most abstract elements of Greek ornamental design, except such as are of purely geometric character. The profiles of Doric capitals, Ionic volutes, and of acanthus leafage afford instances which will occur to every student of Greek art. But in Gothic ornament this expression of life takes a wider range, and the suggestion of nature is more full and varied.” In this passage Mr. Moore does well in calling attention again to the fact that even the abstract forms reflect nature, and in dwelling on the unconsciousness of the process.

It appears to me, however, that there is yet another fact untouched, of still larger import. This is, that in the fully Hellenized forms, the echinus has no longer its own proper vitality alone, nor has the snail-shell of the volutes its own alone, nor has the acanthus merely the vegetative life of a growing plant, but that these, and all the other parts and members are alert with Hellenic life, and that for the original physical form in which the Greeks found this singularly marked quality we must seek elsewhere. Yet it seems to me that the answer is near at hand, and that it is already written in the poetry and mythology of the people.

To the Greeks, in the early days of rich imagination, a river

was in no way a mere stream of water flowing by its weight into the sea; it was a god at first, a great and beneficent god, to whom prayers were addressed, and to whom sacrifices were made. So all nature teemed with life, with spirits, with gods, and, more than with any other nation, these gods took the shape of beautiful and varied human forms, men and women, young and old, and the most characteristic worship of these gods consisted of

the great periodic festivals, where the exercise of the body in physical perfection was thought to be the fittest offering that could be made.

If with this key in hand, we look again on the temples of the gods, as the imagination recalls them, standing in their original perfection, springing clear-outlined, bright, and self-contained, and turn again in thought to the beautiful groups, that even in these days we may see from time to time by the river-side in summer, vigorous nude types of mankind, alert, supple, shining like gems in the midst of the duller textures of beach and foliage, especially if we remember also how



FIGURE 7.—CURVE FROM TEMPLET.

much a part of everyday life such sights were in ancient Greece, a kinship appears between the forms of the temples of the gods and these other highly vitalized forms, a kinship which is surely more than accidental.

Nor does this idea escape under closer analysis. To the present writer the thought first grew in the process, long continued, of helping beginners to analyze, as an exercise in drawing, at certain times the human figure, at others the details of Greek ornament, Greek vases, stelae, sculpture. The close comparisons

thus compelled gradually brought to light a close similarity of line, and with it the idea that in this similarity of character might lie the secret of the peculiarly Hellenic type of vitality in Greek design.

This thought I submit to the judgment of other students of design, confessing that I see no present means of full proof; per-



FIGURE 8.—CURVE FROM TEMPLET.

haps none is possible. Identity of lines is not to be sought, but merely an identity of type of line, which gives identity of sentiment.

VI

A first glance at the human body shows that its surfaces are for the most part convex. Even those lines which the beginner usually draws as concave are found on further study to be in reality the valleys between convex forms. Rarely the stretched

skin over these valleys does show a concave surface, of small extent and distinctly transitional only. This is true of Greek architecture also. The dominant lines and surfaces are all convex. In the Doric order there are few concave elements, and these are of small extent. The fluting of the columns is the obvious example, and the flutes are just deep enough to empha-



FIGURE 9.—CURVE FROM
TEMPLET.

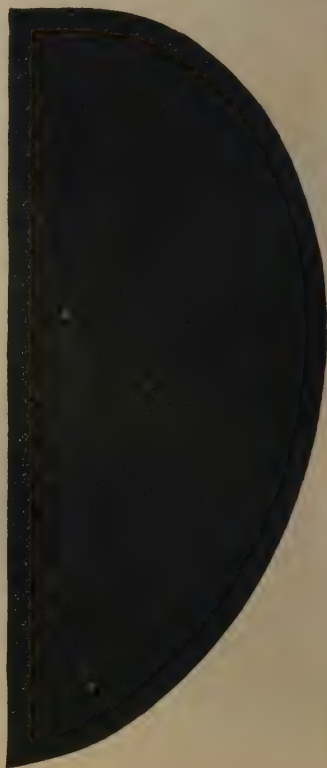


FIGURE 10.—CURVE FROM
TEMPLET.

size the long convex arrises of the shaft. A curious proof of the preference for the convex surface is seen in another of the few places where a concave element is found. The bird's beak moulding which appears at several places in the Parthenon, is of course undercut for the sake of the shadow. But at the line where the surface again becomes visible beneath the overhanging beak, it has already become convex.

In the Ionic order the concaves are more numerous, but they are small and are employed to obtain shadows or to define an arris. It is by no means necessary to attempt to explain away the concaves that exist; there was no anthropomorphic dogma or canon, as I believe, but an ever present influence in favor of the swelling curves, and in favor of giving to these a special elastic tension. This special characteristic of tension is of the

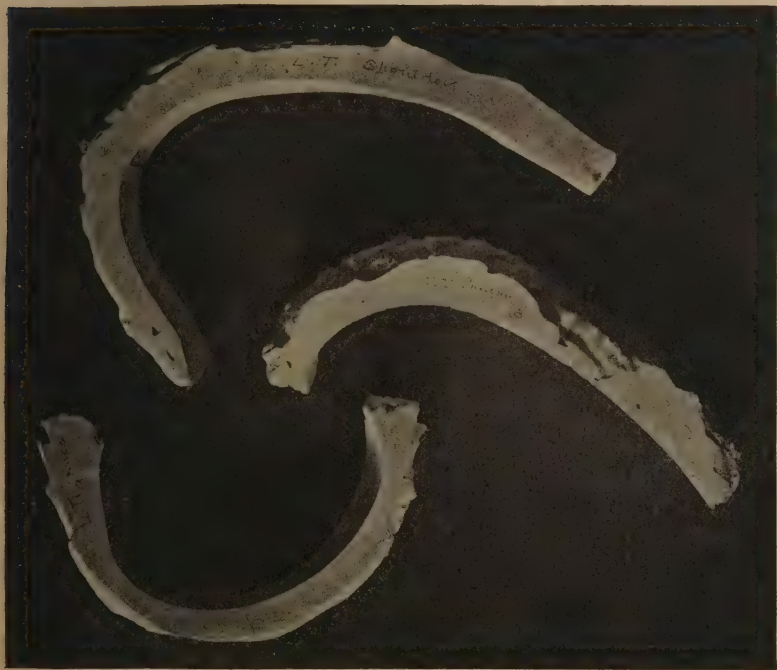


FIGURE 11.—TEMPLITS CAST FROM LIVING MODEL.

utmost importance; it sets the Greek work practically alone in the field of art, and it is what many writers have had in mind in speaking of the contours as parabolic or hyperbolic; they have compared them with the slack and vegetative curves of Roman design, which are composed generally of the arcs of circles.

If again we examine the body, the long lines at first appear to be merely more or less convex. A more careful examination shows that the line is complex, being composed of nearly straight elements joined by very short curves of small radius. This sudden change of radius is due to the bony framework and the

strap-like muscles that overlie it, and it is especially characteristic of animals of fine organization, like the horse and man. In man, however, the translucency and smoothness of the skin make the phenomenon incomparably more effective.

In cross-contours, whether of the torso or of the legs or arms, the facts are similar, but the coördinate measurements form a smaller ratio, and of course we get less contrast in the radii of curvature. In many respects this makes them more interesting; there is a harmony of elements alike enough to be easily related by the eye, and they are also like the curves of mouldings and vase-forms in their general proportions, and so admit of easy comparison. Those shown in Figures 7-10 are contact-photographs from templets cast from life, and, though reduced in size, have suffered no retouching of any kind. A photograph of a number of the templets is reproduced in Figure 11. They show clearly the character of the human curves, and comparison should also be made with the echinus contours shown in any good history of architecture, and with vase-profiles, etc.

Above all, an examination of the Greek works themselves, not inch by inch, nor curve by curve, but each as an expressive whole, would show whether or not we have, as I believe we have, in the tense and supple human form the source of inspiration that gives the special character and distinction to Greek design.

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July 13, 1916.

THE SO-CALLED BOW-PULLER OF ANTIQUITY

THE small bronzes which I am going to discuss deserve to be called diabolical because they have frustrated more attempts to determine what they are than perhaps any objects of antiquity that have come down to us and also for another reason which will later appear, if my own solution of the mystery be correct. Two of them I bought from experts in Rome, who assured me that they were bow-pullers, and by that name or by its foreign equivalents *tira archi*, *Bogenspanner*, or *tire d'arc* the archaeologist usually describes it.¹

In 1894 E. S. Morse published in the *Bulletin of the Essex Institute*, XXVI, pp. 141-166, a monograph in which he definitively disproved all the identifications hitherto proposed, but himself had to admit (p. 142) that he must "reluctantly yield the solving of the enigma to others." More recent conjectures are equally unwarranted, as we shall presently see.

While the variations in these objects invalidate every interpretation which has yet been made, they cannot justify a hypothesis that they were ever intended and served for more than a single purpose;² their general resemblance to one another is too strong. However extreme any one type may seem, there are always intermediate forms to link it gradually in its essential outlines to that

¹ E. S. Morse, 'The So-called Bow-puller of Antiquity,' *Bulletin of the Essex Institute*, 1894, p. 148. Cf. Daremberg et Saglio, *Dict. des Antiq.* I. p. 389, s.v. 'Arcus.' Both of these picture specimens, as does also Strobel, *B. Pal. It. Serie II*, Tomo IV, Anno XIV, 1888, Tav. 1 and 2, discussing them, pp. 92-100, as "*anelli gemini problematici*." Schumacher, *Beschreibung der Sammlung Antiker Bronzen zu Karlsruhe*, puts them under "*Zaumzeug*," but as "*sog. Bogenspanner*." Add the review of Morse's article in *Globus*, LXXI, 1897, pp. 158-159, E. Wagner, *Antike Bronzen der Grossherzoglich Badischen Alterthümersammlung in Karlsruhe*, Plate 28, "*Bogenspanner (?)*" and Babelon, *Guide Illustré au Cabinet des Médailles et Ant. de la Bibliothèque Nationale, Les Ant. et les Objets d'Art*, p. 243.

² Strobel in the next volume of the *Bullettino*, Tomo V, Anno XV, p. 12, gives up his first attempt at classification as untenable, and in another is as unsuccessful as Morse in his double division, pp. 144-146 and 161.

which differs from it the most. They are commonly of bronze, rarely of iron;¹ but those of the latter metal would naturally have disappeared in larger number. Spines, prongs, horns, teeth, or whatever you choose to call them, regularly three in

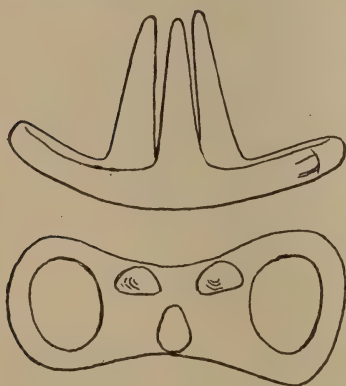


FIGURE 1.—“Bow-PULLER” WITH RINGS BENT UPWARD. (MORSE.)

number but sometimes two² or four³ or five,⁴ project at right angles from a solid base from which extend laterally two rings. These rings are not always on the same plane with the connecting centre, but may bend slightly upward (Fig. 1),⁵ or more rarely curve in the opposite direction (Fig. 6).⁶ The bronzes average about seven centimeters in length.⁷ The few which display decorations always have them on the side of the single prong.⁸ Notable in the ornamentation are

such elements as the phallus,⁹ the head of a steer,¹⁰ or that of a lion between two lions.¹¹

Vital to our problem are the variations in the length, form, and placing of the projections. Thus, they are from two to sixty millimeters long¹² and diverge in appearance as much as a knob and a spur.¹³ The pair may stand far apart from each other or be so nearly united to their points as to resemble a tooth with a

¹ Strobel, *op. cit.* XV, p. 12, speaks of twelve of this material. Cf. XIV, p. 92 and the reference to Crespellani Arsenio, *Oggetti Gallo-Celtici del Modenese*, p. 12, Tav. IV, fig. 10, to which I have no access.

² Strobel, *op. cit.* XIV, p. 93; Morse, *op. cit.* p. 146.

³ Morse, *op. cit.* p. 145.

⁴ Morse, *op. cit.* p. 146.

⁵ Morse, *op. cit.* p. 143.

⁶ Morse, *op. cit.* pp. 143-144.

⁷ Morse, *op. cit.* p. 146.

⁸ Morse, *op. cit.* pp. 144-145.

⁹ Strobel, *op. cit.* XIV, p. 94.

¹⁰ Morse, *op. cit.* p. 145.

¹¹ Morse, *op. cit.* p. 145. Strobel, *op. cit.* XV, p. 14, notes one that has the head of a fish. See also *Brit. Mus., Cat. of Bronzes*, Nos. 2894 and 2895.

¹² Morse, *op. cit.* p. 152.

¹³ For the following description compare Morse, *op. cit.* p. 145.

medial groove. The third upright may be more than a centimeter from the others, or the bases of all three may be practically contiguous. The projections not only range from pointed to blunt but in cross-section may be round, oval, or angular, though but rarely square. Most ruinous to some of the theories is the fact that the three do not always rise to an equal height in the same specimen.¹ Sometimes the pair rise higher, sometimes either its right member or its left member is the highest of the triad, and sometimes it is the front spine (Fig. 2). Nor is there any discernable cause for these disparities.

Certain signs of wear caused by rubbing indicate that some fastening passed through the rings and under the body of the object,² and those that have come down to us broken usually lack the outer edge of the rings, where, therefore, the pressure must have come.³ Some, indeed, have been found with several links of a figure-eight chain still running through them (Fig. 3).⁴ These cannot be ignored by the theorist merely because they are

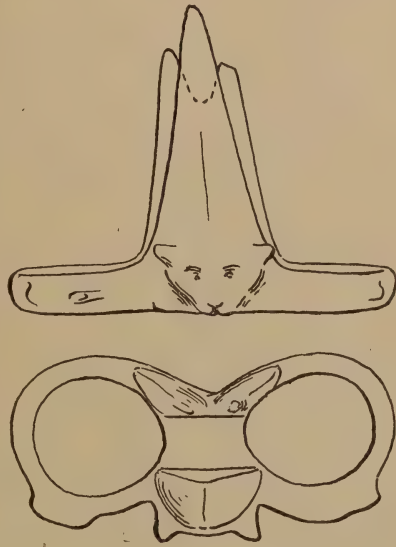


FIGURE 2.—“Bow-Puller” WITH LONG SPINE IN FRONT. (MORSE.)

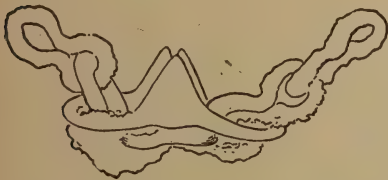


FIGURE 3.—“Bow-Puller” WITH CHAIN. (MORSE.)

inconvenient to his hariolations.

Even this summary account makes evident that we have any-

¹ Morse, *op. cit.* p. 155: “In forty-two specimens, for example, the single spine is longer in fourteen, shorter in thirteen and of the same length as the others in fifteen. In some of them the single spine is only half the length of the other two.”

² Morse, *op. cit.* p. 146.

³ Morse, *op. cit.* p. 147.

⁴ Strobel, *op. cit.* XIV, p. 95, fig. 1; Morse, *op. cit.* pp. 148 and 156; Daremberg et Saglio, *s.v.* ‘Frenum,’ II, p. 1336, figs. 3285, 3286.

thing but a simple task before us. Moreover the range of their chronology and provenance upsets more theories than the scholars who offered them seem to have realized. These objects appear among Etruscan, Roman, and Greek remains covering many centuries.¹ The earliest, however, postdate the age of bronze.²

In reviewing the arguments which investigators have put forth there is no necessity to meet each with every possible refutation. An expert bowman declares that they cannot have served as a release for a bowstring.³ The shortness of some of the spines settles that even for one who is no archer. The same consideration forbids us to call them either screw drivers⁴ or caltrops.⁵ More attractive was Strobel's theory that they were made for the control of a horse. But whether worked against the horse's nose,⁶ as he first thought, or under the jaws, as Charvet⁷ more plausibly argued, many cannot be attached in any practical fashion,⁸ nor, even if attachable, could they be made effective, especially where the prongs are either extreme in length, or are blunt, or close together. Similar objections must negative any notion that they were ever any part of a bit.⁹ Neither of mine, for instance, could possibly win favor with such a master of the art of frightfulness as a Roman horseman, while, on the other

¹ Strobel, *op. cit.* XIV, p. 92; Morse, *op. cit.* p. 148.

² Strobel, *op. cit.* XV, pp. 18-19.

³ Morse, *op. cit.* pp. 150-153 and 163.

⁴ Morse, *op. cit.* pp. 149, 154, and 164.

⁵ Morse, *op. cit.* pp. 154 and 164 on the *tribulus*.

⁶ Speaking of those with the longer prongs, he says, *op. cit.* XIV, p. 95: "Quelle . . . dovevano premere obliquamente contro il naso del cavallo sì che la punta solcata o bifida od appariata rimaneva di sotto, era l'inferiore, e superiore l'altra od isolata." Of what he calls the type with shorter projections he says: "Questo . . . è un poco arcuato sì che la seghetta si adattava meglio alla volta del naso e doveva premere su di lui non più obliquamente, ma perpendicolarmente dall'alto al basso." But, as I have already remarked, an increased acquaintance with the various types led him to relinquish this division. Cf. p. 25, note 2.

⁷ B. Charvet, 'Communication sur un objet appelé par moi gourmette de répression,' *Bulletin de la Société d'Anthropologie de Lyon*, VIII, 1889, pp. 70-74.

⁸ Morse, *op. cit.* p. 157.

⁹ Strobel in his later article, *op. cit.* XV, p. 24, says: "Ammetto non solo che abbiano servito da seghetta, ma anche da barbazzale; di più che quelli del tipo dentati sieno stati adoperati anche come filetti, cioè posti in bocca agli animali per premere su la lingua." But see Morse, *op. cit.* pp. 158 and 164. Not the *δακτύλιοι ἐχίνοι τριβόλοι* of Pollux, I, 148, we may be sure.

hand, the prongs of certain others would ruin a horse in a few hours. Again, only a minority of the specimens extant could be made to serve as spear-throwers,¹ or as lampwick holders,² or as devices to keep loads from slipping,³ or to secure one's grip on the reins,⁴ or as something to be driven into some object,⁵ or as shorteners for chains,⁶ as the more detailed discussion in Morse's monograph will demonstrate, if your own mental picture of them has not already made it clear.

Morse's destructive criticism and his own admission of defeat challenged another ethnologist Daniel G. Brinton to propound a new solution of the puzzle.⁷ His chief inspiration was an uncommonly choice specimen in our University Museum (Fig. 4),⁸ and in his article he decides that his conclusion is incontrovertible: they are *μῆρυκες*, "part of the offensive armour of the pugilist which he chained or strapped to the leathern caestus enfolding his hand."⁹ A Philadelphian scholar, Mrs. Cornelius Stevenson, has revived Brinton's suggestion in a Bulletin of the Pennsylvania Museum,¹⁰ which also possesses a perfect example of the object.¹¹ But there is much to controvert their conjecture.



FIGURE 4.—"Bow-PULLER" IN UNIVERSITY MUSEUM, PHILADELPHIA.

¹ Morse, *op. cit.* pp. 158 f. and 164.

² Morse, *op. cit.* pp. 159-161 and 164.

³ Morse, *op. cit.* p. 164.

⁴ Morse, *op. cit.* pp. 161 f. and 164.

⁵ Morse, *op. cit.* p. 162.

⁶ Morse, *op. cit.* pp. 162 f.

⁷ "The So-called 'Bow-puller' Identified as the Greek *μῆρυξ*," *Bulletin of the Museum of Science and Art, University of Pennsylvania*, Vol. I, No. 1, June 1897. Cf. *Brit. Mus., Cat. of Bronzes*, p. 353, Nos. 2893-2898, "the most plausible interpretation seems to be that they are the *μῆρυκες*."

⁸ Brinton, *op. cit.* p. 1, "obtained by the late Mr. F. C. Macaulay from near Orvieto."

⁹ *Op. cit.* p. 2.

¹⁰ October 1912, pp. 55-59, 'So-called Bow-pullers.'

¹¹ In the Hammer Collection, which also has two fragments of similar objects. See *op. cit.* p. 55.

The term *μύρμηξ*, appropriate to any warty excrescence, refers to the studs of metal which were first inserted in the thongs of leather

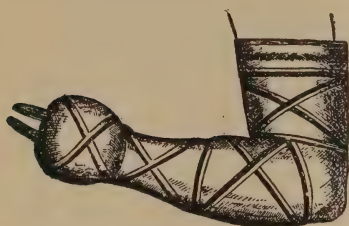


FIGURE 5.—“LIMB-PIERCING”
CAESTUS. (JÜTHNER.)

at a much later age than that to which many of our bronzes must be attributed, while the “limb-piercing,”—*γυιοτόπος*,—type (Fig. 5), which only our longest pronged specimens could constitute, belongs still later.¹

Finally, I may mention that Dr. Edward Schumann, a surgeon of this city, no sooner saw mine than he hailed them as ex-

cellent tooth-keys, and a test on my front teeth demonstrated in a painful second that possibility. But alas! there are many with which one could not extract a tooth. This, like every other hypothesis so far advanced, fails to fit all cases or even a majority of them, and I now pass to the constructive portion of my paper.

First of all may I observe, but with no intention of being cynical beyond the limits of ordinary humor, that when an object is neither useful nor ornamental, and yet is rather common, it is likely to be in some way connected with religion or with near-religion, as, for instance, a gargoye, or an ex-voto oil painting,

¹ It was not until the fourth century B.C. that the simple thongs were replaced by a leather gauntlet circled by a hard leather ring, and such weapons as the loaded thongs of Vergil's *ingentia septem terga boum plumbo insuto, ferroque rigeant* (*Aen.* V, 405 f.) are a still further development. The metal balls with “limb-piercing” spikes were used by Romans, and were unknown to Greece before imperial times. Cf. *Anthol. Pal.* XI, 78. It is the Byzantine Christodorus who in the fifth century A.D. terms the *μύρμηξ γυιοτόπος*. Brinton's mistranslation of Homer, *Il.* XXIII, 648 ff. led him to imagine that loaded thongs were in use even then. Mrs. Stevenson errs in referring (p. 57) Paus. VIII, 40,3 and (p. 58) VI, 23, 4 to the *μύρμηξ*.

One may consult on the *caestus* Gardiner, *Greek Athletic Sports*, p. 411 and especially the recent article in Lübkers *Reallexikon des klassischen Altertums*^{s.v.} Compare also Daremberg et Saglio *s.v.* ‘Pugilatus,’ and Walters, *A Class. Dict.* *s.v.* ‘Pugil’ and ‘Caestus.’ Brinton says of those that have a convex base (*op. cit.* p. 2): “The purpose of this was that they could be lashed the more firmly on the caestus.” The practical boxer might object that this curve, particularly if the chain ran beneath it, as in those that have been found, would be an unnecessary menace to the bones of the hand. Worse still, the projections on many of these little bronzes are much too short even to appear above anything that could attach them securely to a caestus. For the chronology reference should be made to Jüthner, *Ueber Antike Turngeräthe*, pp. 65–95.

and so I suspect that these so-called bow-pullers are no instruments or implements of any kind, but merely amulets for the protection of horses and other draft-animals against anything magical and diabolical.

Upon this hypothesis we can readily account for every factor which enters into the problem: first, their widespread and long continued use from very early times; secondly, their peculiar shape; thirdly, that conventionality of form which permits of certain disparities in the length of the horns or teeth even in the same specimen; fourthly, their occasional decoration with phallic symbols, with the heads of animals, especially such as possess horns, with the lion, the king of beasts, all of these being pre-eminently magic in their character and added therefore to amulets to intensify their prophylaxis; fifthly, the predominant group-

ing by threes, a number which contains the maximum of occult virtue; sixthly, the signs of wear just where they should be, if they were strung on a chain or strap connected with harness. One specimen, indeed, has grooves notched in its rings,¹ which now become explicable as intended to prevent the slipping of a cord (Fig. 6).



FIGURE 6.—“BOW-PULLER” WITH NOTCHES IN RINGS. (MORSE.)

Seventhly, the theory accounts for their appearance in association with horse harness in ancient tombs.²

Amulets antedate history³ and their use in harness,⁴ in a more

¹ Morse, *op. cit.* p. 147.

² Strobel, *op. cit.* XIV, p. 97, referring to Crespellani, *op. cit.* Cf. Morse, *op. cit.* p. 157.

³ Homer's reference to moly (*Od.* X, 305) is perhaps our earliest literary allusion to a magical protective of this sort. Cf. Smith's *Dict. of Ant. s.v.* 'Amuletum'; Seligmann, *Der Böse Blick und Verwandtes*, II, p. 140; Hastings, *Encyclopaedia of Religion and Ethics*, s.v. 'Magic (Greek and Roman),' the introduction to K. F. Smith's excellent monograph. Cf. also Hastings, *op. cit.* s.v. 'Charms and Amulets (Hebrew),' p. 440, § 3; Cartailhac, *Les Ages Préhistoriques de l'Espagne et du Portugal*, p. 98; Elworthy, *Horns of Honour*, p. 74.

⁴ We may instance the boar tusks found in the Crimea (*Dar. et Sagl. s.v.* 'Amuletum,' p. 254), the *phalerae* of the Romans (*ibid.* p. 255) and perhaps in Judges, VIII, 26 "the chains that were about their camels' necks." See *The Jewish Encyclopaedia*, s.v. 'Amuletum,' p. 546.

or less disguised¹ form, will never cease until harness itself goes out of existence and animals are directed, shall I say, by wireless or by mere thought transference. In some lands the bits of bright metal are still frankly recognized as prophylactics against the evil eye, as notably, for instance in much of Italy,² but in our own harnesses what passes, for example, as a purely ornamental crescent³ is in reality, of course, of the same superstitious origin.

Allowing for the slight conventionalizing that is so common in the designing of amulets,⁴ we may best liken the projections in ours to horns,⁵ generally fully grown, but in some cases the budding type which graced that *haedus* of Horace's ode, *cui frons turgida cornibus primis*. A few have the shape of another favorite sort of ancient charm, the shark's tooth.⁶ There is furthermore one specimen which projects not a triad of horns but the complete head of a horned animal (Fig. 7),⁷ so that it would be utterly useless for the utilitarian purposes that scholars have conjectured. This, I venture to say, almost constitutes in itself alone sufficient proof that my interpretation is correct. Note, too, that what are unmistakable amulets frequently combine in themselves a

¹ Of course, the fundamental or original purpose of the object may have been to avert the evils of magic, even when the owner ascribes some other power to it, as *e.g.*, in the case of the wolf's tooth attached to a horse that makes him tireless (Pliny *N. H.* XXVIII, 19, 78). See Dar. et Sagl. *s.v.* 'Amuletum,' p. 254.

² Elworthy, *The Evil Eye*, p. 10. For similar harness ornaments cf. Seligmann, *Der Böse Blick und Verwandtes*, II, p. 22; Reinach, *Répertoire de Reliefs Grecs et Romains*, II, p. 509, fig. 3.

³ The *μηρίσκοι* and *lunulae* of the ancients. The "round tires like the moon" of Isaiah III, 18, may have been amulets. R. Park, *The Evil Eye, Thanatology, and Other Essays*, p. 19, would connect the use of horns as an amulet with the power of the crescent moon of Diana; so, too, Elworthy *Horns of Honour*, pp. 10-12.

⁴ For instance, the horn may now have as its substitute a tooth, a cock's spur, or even a crab's claw; the Devil recognizes them all as having the thwarting intent. Similarly (according to Seligmann, *op. cit.* II, p. 140) the horse shoe is nought but the crescent: in both the power is in the horns.

⁵ Those which have beak-like points (Strobel, *op. cit.* XV, p. 14, "la punta rostrata od uncinata") in particular resemble the horns of various animals. A splendid specimen of this sort is in the Boston Art Museum.

⁶ Elworthy, *The Evil Eye*, p. 211, quoting Dodwell, *Classical Tour*, II, p. 34. Cf. Seligmann, *op. cit.* II, p. 136.

⁷ From Morse, *op. cit.* p. 160. It is in the British Museum. See *Brit. Mus. Cat. of Bronzes*, p. 353, No. 2893; "An ibex's head"

number of separately avertive charms (Fig. 8),¹ *e.g.*, a crescent,² horns,³ the head of a cornute animal,⁴ or phallic symbols,⁵ precisely as do the decorated examples among those that we are discussing.

Long study in the literature of magic makes me hesitate to



FIGURE 7.—“BOW-PULLER” WITH HEAD OF ANIMAL. (MORSE.)



FIGURE 8.—AMULET WITH COMBINATION OF CHARMS. (SELIGMANN.)

trace the exact connection that may exist between the phallus and the horn,⁶ two forms of charms that seem to be immemorially universal and second to none in potency, nor will I press the possibility that the apparent horns of these particular amulets are in

¹ Otto Jahn, *Ber. Sächs. Ges.* XVII, 1855, ‘Ueber den Aberglauben des bösen Blicks bei den Alten,’ p. 76: “Man suchte nun die prophylaktische Kraft dieses Symbols durch mancherlei Umbildungen zu verstärken, indem man mehrere mit einander verband.” Thus the well known votive hands are surcharged with amulets. See in Baumeister *Denkm. s.v.* ‘Amulett,’ and Seligmann, *op. cit.* II, p. 352, and on the *phallus oculatus*, *ibid.* II, p. 201, fig. 193.

² Seligmann, *op. cit.* p. 138.

³ For their magic influence compare Pliny *N. H.* XI, 28, 34 and XXX, 15, 47.

⁴ It was the horns, of course, that did the work. See Seligmann, *op. cit.* II, p. 128, Morse, *op. cit.* p. 159. The former lists on pp. 113 and 127 Bock, Widder, Ziege, Gemse, Steinbock, Ochse, Kuh, and Stier as possessing horns of power according to the magic lore of various peoples.

⁵ Consult Pliny *N. H.* XIX, 4, 19 on *satyrica signa* and in general Jahn, *op. cit.* pp. 58 and 68. So the Italian unites in one object the manofica and phallus. Seligmann, *op. cit.* II, p. 227; cf. 229.

⁶ Note for example that children were protected not only by a phallus (Pliny *N. H.* XXVIII, 4, 7: *illos religione tutatur et fascinus*) but also by the dentated horns of scarabaei (Pliny *N. H.* XI, 28, 34: *cornua praelonga . . . infantium etiam remediis ex cervice suspenduntur*. XXX, 15, 47: *scarabaeorum cornua grandia denticulata adalligata iis amuleti naturam obtinent*).

their ultimate origin *fascina*.¹ The genius who makes the definitive analysis of the illimitable evidence must take into account not merely the long, unbroken tradition of corniform objects from the prehistoric bronze *tutuli*² down to the horn that dangles to-day from the Neapolitan watch-chain,³ but also certain gestures which the ancients originated,⁴ which Christian art permits even to the hand of God, outstretched from the sky,⁵ which the Italian still makes in insult or as a protection against witchcraft.⁶ Nor can the investigator ignore the obelisks of Egypt, or, at any rate, their use in Rome, nor even, as some will have it, the church spires of Puritanical New England.⁷ But wearing no safeguard myself, I do not intend to embark on this sea of troubles.

Much lore has been gathered concerning the peculiar potency in religion and in magic of the number three.⁸ We need note only a few instances that are somewhat pertinent to our own problem. . Thus we find the *fascinum* tripled on prehistoric walls at

¹ The modern Italian correlates the two. Cf. Seligmann, *op. cit.* II, p. 136: "Der Neapolitaner, der diesen Talisman (*i.e.*, a horn) nicht bei sich hat, spricht dafür das Wort corno oder corna aus (im Italienischen Argot bezeichnet corno auch das männliche Glied) oder er macht . . . mit der Hand eine Geste die man *far le corna* nennt."

² Seligmann, *op. cit.* II, p. 135. For early amulets see also Elworthy, *op. cit.* pp. 131, fig. 19; 145, figs. 35-37, and 201, fig. 78.

³ Included would be the scarab (cf. *e.g.*, Anton. Lib. 22 and Hesych. *s.v.* *κεράμβηλον*), and the phallus, which was anciently attached to the chariot of the triumphing general as the *medicus invidiae* par excellence (Plin.: *N. H.* XXVIII, 4, 39), just as the Italian carter still suspends a horn beneath his wagon or, if a wine cart, sometimes from beneath its folding hood. Is the horn as the chief Italian amulet a refined survival in some cases of the phallic symbol? Seligmann, *op. cit.* II, p. 114.

⁴ For the possible connections between the insulting and avertive gesture of "making horns" at somebody and the corniform amulets reference may be made to Dar. et Sagl. *s.v.* 'Fascinum,' p. 988; for the sticking out of the middle finger, the *digitus infamis*, as a phallic symbol, Jahn, *op. cit.* p. 82.

⁵ Pictured in Seligmann *op. cit.* I, p. 385, fig. 71. R. Park will have it that the sacerdotal extension of two or three fingers as a symbolic sign is in origin phallic (*op. cit.* pp. 25-26).

⁶ Schlesinger, *Geschichte des Symbols*, p. 437.

⁷ On phallic columns, see Jahn, *op. cit.* p. 74, note 181; Lang, *Myth, Ritual and Religion*, II, p. 275, and Paus. VI, 26, 5. Of course, it is a mooted question about the obelisks. Compare De Visser, *De Graecorum Diis non Referentibus Speciem Humanum*, p. 23 and Movers, *Die Phönizier*, I, pp. 570 ff.

⁸ Usener, 'Dreiheit,' *Rhein. Mus.* LVIII, pp. 1 ff.; Elworthy, *op. cit.* pp. 405f.; and E. Tavenner, 'Three as a Magic Number in Latin Literature,' *Trans. Am. Philol. Assoc.* XLVII, 1916, pp. 117-143.

Grottatore¹ and over the gate at Alatri,² three half-moons and three phalli grouped on a bronze ox-head found at Herculaneum,³ triads appearing in the formulae of magic curses,⁴ and a reference in Augustine (*Ep.* XVII, 1) to the extension of three fingers to ward off danger. The efficacy of the number in connection with safeguarding horses is, of course, widely attested for modern times. Sometimes it involves spitting three times.⁵ In Pomerania a horse that has been overlooked or eyebitten, and becomes balky can be induced to move, if one knots the whiplash and then makes with it the sign of the cross over him thrice.⁶ In Scotland⁷ you cure an ailing horse by putting your hand on him and saying:

Thrie bitters has the bitt
In the tung, the eye, the heart,—that's worst.
Other thrie, thy best mon be
In the name . . .

or

Thrie thinges hath the forspokin
Heart, tung and eye, almost;
Thrie thinges sall the mend agane
Father, sone and Holie Ghost.

Verily "alle guten Dinge sind drei." ⁸

¹ Elworthy, *op. cit.* p. 155. I am reminded of the *Triphallus* of Naevius (Gell. II, 19, 6), Varro's *τριφάλλος ἢ περὶ ἀρρενότητος*, and Aristophanes' *Τριφάλλης*; *Triphallus* = *Priapus* (Auct. *Priap.* 83. 9). Cf., too, *Tribacelus* of Naevius.

² Pauly-Wissowa, *Real-Encyclopädie s.v.* 'Amuletum'; Baumeister, *Denkm.* III, p. 1702, fig. 1783.

³ Elworthy, *op. cit.* p. 264.

⁴ Especially important is Audollent, *Defixionum Tabellae*, pp. LXXVII–LXXVIII, particularly his note 7.

⁵ Similarly in antiquity Pliny *N. H.* XXVIII, 4, 7: *terna despuere praedicatione in omni medicina mos est atque effectus adiuvare*. Cf. Seligmann, *op. cit.* II, p. 209.

⁶ *Ibid.* I, p. 344.

⁷ *Ibid.* I, p. 382.

⁸ Above all in Italian superstitions. Compare, for example, in the work of our chief authority in such matters Giuseppe Pitre, *La Jettatura ed il Mal'occhio in Sicilia*, p. 7, the charm that should be uttered as one makes the sign of the horns: Cornu, gran cornu, ritortu cornu,

Russa la pezza, tortu lu cornu,

Ti fazzu scornu:

Vaju e ritornu,

Cornu! cornu! cornu!

and the prescription: e si sputa tre volte con forza: ppu! ppu! pppu!

Of course, doubling or tripling the prophylactic elements in a charm multiplies its efficacy. Both the horn and the phallic symbol are frequently so treated.¹ Could any design be devised better fitted to concentrate a number of them in their proper position upon an amulet than this which our bronzes display, two rings separated by the base from which the projections spring?

Excepting his own children nothing that belonged to a Greek or a Roman seemed to him to need such protection against the menace of magic² as did his domestic animals and more especially his horse.³ The ubiquity of the superstition is attested still, not only for such countries as China, India, Turkey, and Egypt, but for the British Isles.⁴ Italy, indeed, recognizes as a special breed of eye-biters the jettatori di cavalli.⁵ It has, therefore, struck me that it is not without significance for my problem that the *metae*, or rounding-posts in the Circus Maximus with their hitherto unexplained grouping of three conical columns, most resemble the little bronzes that we are studying.⁶ From the standpoint of symmetry there was no compelling reason why they should be three in number.⁷ Four would have satisfied

¹ Elworthy, *op. cit.* p. 202, refers to an amulet with three horns. Cf. R. P. Knight, *The Symbolic Language of Ancient Art and Mythology*, pp. 98 and 172.

² Pauly-Wissowa, *op. cit.* s.v. 'Amuletum'; Seligmann, *op. cit.* I, pp. 214 and 279; II, p. 18. The effect of magic upon an animal is vividly described in Vegetius, *Mulom.* V, 73: *fascinatam animal triste est, gravatur incensu, macescit et nisi subvenerit incidet in morbum.*

³ Smith, *Dict. of Antiq.* s.v. 'Phalerae'; Seligmann, *op. cit.* I, p. 213; Elworthy, *op. cit.* p. 194, who pictures many amulets for horses in figures 83-84.

⁴ Elworthy, *op. cit.* p. 10. Of course, many other lands might be listed; Seligmann, *op. cit.* II, p. 128.

⁵ Seligmann, *op. cit.* I, p. 213.

⁶ For the form cf. Curtius, VIII, 11, 6-39 and Livy XXXVII, 27, 7. The ancient monuments which picture the *metae* have been often figured in our manuals. Cf. Roscher, *Ausführliches Lexikon*, s.v. 'Poseidon,' p. 2898, fig. 26; Reinach, *Répertoire de Reliefs Grecs et Romains*, II, p. 18; p. 226, fig. 2; p. 296, fig. 2; p. 500; III, p. 45, fig. 4; p. 237, fig. 4; p. 367, fig. 5; p. 368, figures 1 and 2; p. 369, fig. 1; Espérandieu *Recueil Général des Bas-Reliefs de la Gaule Romaine*, I, p. 377, fig. 590; Hübner, 'Musaico di Barcellona raffigurante Giuochi Circensi,' *Annali dell' Istituto*, XXXV, 1863, Tav. D; Zangemeister, *Ibid.* XLII, 1870, 'Relievo di Foligno,' pp. 236 and 246 with Tav. d'agg. LM, which shows the columns bending inward so that they seem even more like some of the tripled prongs of our bronzes.

⁷ In the many monumental representations of the *metae* I can find only one exception, a quintuple arrangement such as rarely also appears in the amulet; see in Reinach, *op. cit.* II, p. 19.

appearances; for, as you recall, the base on which they stood was commonly separated from the *spina* or dividing wall of the arena by a space.¹ Why, too, should there not have been but a single upright as in the hippodromes of Hellas?²

But the location as well as the form and number of the *metae*-pillars suggests their amuletic origin and purpose. Nowhere was magic so dangerous as in a public gathering where you could not readily single out the person who "overlooked" you. Horse-racing and superstition have always paired,³ and no Roman circus could be too carefully guarded against perils of an occult sort. In particular the charioteers in the days of unscrupulous partisanship had something worse to dread than the *meta* (-*que*) *fervidis evitata rotis*.⁴ There were, for instance, those *defixiones*⁵ which rivals used in order to stay the flight of the horses, wreck the cars, and kill the drivers.⁶ In these spells, the critical place in the course, indicated in a special formula,⁷ is precisely the rounding-posts.⁸ There, too, in the Greek hippodrome, Poseidon in the

¹ Dar. et Sagl. *s.v.* 'Circus,' p. 1188, fig. 1515; p. 1189, fig. 1517; p. 1190.

² The column was sometimes movable so as to be less likely to cause an upset; Dar. et Sagl. *s.v.* 'Hippodrome,' p. 200. At Olympia a column surmounted by a bronze Hippodamia (Paus. VI, 20, 8) stood at one end, the round altar of Taraxippos at the other, according to Baumeister, *Denkm. s.v.* 'Hippodrom,' but some disagree with the latter statement. See Frazer's note on the passage in Pausanias.

³ From one of the letters of Cassiodorus (*Var. Epist.* III, 51) we learn of a charioteer whose victories were so uninterrupted that he was thought to owe them to witchcraft. Tertullian (*De Spect.* 8) would connect the word *circus* with Circe, the sorceress.

⁴ Horace, *Od.* I, 1, 4-5.

⁵ For a list of "*tabellae in agitadores (et venadores) immissae*" see Audollent, *op. cit.* p. xc.

⁶ 'Inscriptions Imprécatoires trouvées à Carthage,' *B. C. H.* XII, 1888, p. 295: "*demon qui ic conversans trado tibi os equos ut deteneas illos et implacentur nec se movere possent.*" Cf. Amm. Marc. XXVI, 3, 3; XXVIII, 1 and 4; also Battle, 'Magical Curses,' *Proc. Am. Philol. Assoc., Special Session*, 1894, p. lvi.

⁷ *B. C. H.* XII, p. 300: μάλλον ἄρπασον αὐτοὺς ἐκ τῶν ἰδίων ἀρμάτων καὶ στρέψον ἐπὶ τὴν γῆν, ἵνα πεσέτωσαν μόνοι ἐμ παντὶ τόπῳ τοῦ ἵπποδρόμου συρόμενοι, μάλιστα δὲ ἐν τοῖς καμπτήρησιν μετὰ βλάβης τοῦ σώματος σὺν τοῖς ἵπποις οὓς ἐλαύνουσιν. See in Audollent, *op. cit.* p. 319, lines 42ff.

⁸ Pollak's theory (*Hippodromica*, pp. 85-102) that the sudden sight of their shadows scared the horses is absurd. See Dar. et Sagl. *s.v.* 'Hippodrome.' The superstitious thought that something beneath the altar had the mysterious influence for harm; Paus. VI, 20, 8, who, however, puts the altar at the passage through the bank.

character of Taraxippos¹—for surely that is the proper identification of the demon of the smashup²—did his worst to scare the steeds.³ Quite fittingly, therefore, the Romans would erect at those strategic and crucial points in the course their triple protections. According to what seems to me the less acceptable theory they imported their circus games from Thurii,⁴ in which case the origin of these *metae* might be Greek. But a more likely tradition traces the *ludi* to the Etruscans,⁵ whose sway in matters of religion and of superstition⁶ was so pervasive in Roman civilization. The rounding-pillars, at first perhaps movable,⁷ were finally made permanent and might receive considerable ornamentation. But their peculiar form calls for a more detailed explanation.

Let us begin with the god Consus, at whose games, the Consualia, tradition dates the Rape of the Sabines.⁸ He was indubitably a god of the stored crops.⁹ His pairing originally with Ops has been established, and the derivation from the root

¹ He was dreaded also in one form or another at Delphi, the Isthmus, and Nemea; see respectively Paus. X, 37, 4; VI, 20, 8; VI, 20, 19. At the Isthmus Glaucus was the Taraxippos.

² In Lycophron, 42 ff. we hear of earthborn Ischenus as Taraxippos; cf. Tzetzes on this. Some made Pelops the terrifier at Olympia (Hesych. s. v. *Ταραξίππος*). Evidently the ancients were in doubt; cf. Paus. VI, 20, 8, who gives many guesses, but decides for Poseidon.

³ Dio Chrys. *Orat.* XXXII, Vol. I, p. 426 Dind.

⁴ Tac. *Ann.* XIV, 21.

⁵ Livy, I, 35; Cic. *De Rep.* II, 20, 36.

⁶ K. F. Smith, *op. cit.* p. 276.

⁷ Suet. *Caes.* 39. Pictured in Mužik und Perschinka, *Kunst und Leben im Altertum*, p. 148, fig. 5.

⁸ Cf. e.g. Livy I, 9. Fowler, *Roman Festivals*, pp. 208 f. notes the jollity and license that characterize the completion of the harvest and the tendency at that time to sexual aberrations. Mommsen, *Römische Forschungen*, II, pp. 474 f., seeing in Consus a chthonian deity of productivity, notes the appropriateness of dating the rape at that time, when a festival was being held to placate him and to prevent sterility. Schwegler, *Römische Gesch.* II, p. 471, argues that tradition has simply dated back the circus games to Romulus' time from the reign of Tarquin, when they were really introduced from Etruria; but informal racing with mules and horses may have been very early. Seeley in his edition of Book I of Livy, notes on I, 9 and I, 35, remarks on the historian's attempt to evade the difficulty.

⁹ Wissowa, *De Feriis Anni Romanorum Vetustissimi*. Cf. Fowler, *The Religious Experiences of the Roman People*, pp. 285 and 482.

which appears in *condere*¹ must be preferred to various ancient conjectures.² As a deity of vegetation, Consus came naturally by his equestrian games.³ The fact that horse racing had long been recognized in Greece as appropriate to the god Poseidon⁴ makes the Roman identification⁵ of Consus and Neptune quite comprehensible. Of course, Poseidon himself as a god of moisture⁶ played his own rôle as a benefactor of agriculture,⁷ *φωτάλμιος*, but I am hardly of the opinion that that furthered the assimilation much, if at all. Of real importance, however, to our problem is the fact that on the *spina* in the Circus Maximus appeared the statues of Seia, Segetia, and Messia,⁸ three other divine assistants to the agriculturist, while Pollentia,⁹ goddess of power,¹⁰ also lent her influence in this circus. Why may we not, therefore, seek the origin of the *metae*-pillars in a symbol of reproduction and of power that was universally regarded as the best sort of prophylactic against witchcraft, as well as of peculiar appropriateness to any agricultural festival?¹¹ The ceremonies, for instance, which

¹ Mannhardt, *Mythologische Forschungen*, p. 161; Aust, *Die Religion der Römer*, p. 141; Pauly-Wissowa, *Real-Enc. s.v.* 'Consus.' His altar at the lower end, the south turning-post, of the Circus Maximus, was kept covered (cf. e.g. Tert. *de Spect.* 5 and 8) except during the races.

² A dozen passages connect it with *consilium*.

³ Fowler, *Roman Festivals*, p. 208, but especially Mannhardt, *op. cit.* p. 172: "Doch nicht allein in Nordeuropa war das Erntefeste mit Wettlauf oder Wettritt verbunden. In Rom gingen die Circusspiele von demselben aus." Mules probably figured more importantly than horses; Paul. Diac. p. 148, but cf. Dion. Hal. I, 33. Ordinary farm animals had a rest (Plut. *Quaest. R.* 48).

⁴ Especially in Thessaly; see Farnell, *The Cults of the Greek States*, p. 14 and for the theories about this, pp. 21 f.

⁵ Mommsen, *Römische Forsch.* II, p. 43.

⁶ Farnell, *op. cit.* IV, p. 7. Neptune, the old Roman god had nothing to do with the sea, but was honored as a deity of moisture by the Neptunalia at the height of the dry season, when his aid was most necessary to the agriculturist. Cf. Aust, *op. cit.* p. 177; Roscher, *op. cit. s.v.* 'Neptunus,' p. 202.

⁷ For his association with agriculture in art see Farnell, *op. cit.* p. 57.

⁸ Pliny *N. H.* XVIII, 2, 7-8: Tert. *De Spect.* 8.

⁹ Livy, XXXIX, 7, 8.

¹⁰ Preller, *Römische Mythologie*, II, p. 213; Roscher, *op. cit. s.v.* 'Indigamenta,' p. 183: "Ferner scheint die Pollentia . . . ein von dem in den Wettkämpfen des Circus Auftretenden verehrten Indiges des pollere gewesen zu sein welcher der Praestitia und der Praestana zu vergleichen ist."

¹¹ The phallus was the distinctive attribute of Mutunus Tutunus and Priapus. On the utility of *satyrica signa* in gardens see Pliny *N. H.* XIX, 50. The Paphian Aphrodite was worshipped in the guise of a *meta* or *umbilicus*; see De Visser *op. cit.* p. 43, and Tac. *Hist.* II, 3.

Augustine, *De Civ. Dei*, VII, 1, ascribes to Lavinium, make sufficiently clear the farmer's attitude towards this most puissant symbol. It is at least worth noting also that obelisks were a favored decoration for the top of the *spina*,¹ and were certainly more than a decoration in the estimation of spectators.² The circus could hardly be over-protected against magic.³

We have reached now our final practical question: how did they attach the amulet to a horse? It is partially answered by the presence of links of a chain in several surviving specimens.⁴ They might be strung on anywhere to suit the owner's fancy. We have, for instance, an ancient representation of a half-moon amulet close to the horse's chest.⁵ Grattius Faliscus⁶ tells us how they attached similar charms to the necks of hunting dogs. A handsome specimen like that which our University Museum possesses may have figured as a part of a headstall, with the one spine facing the front, of course, so as to display and make the most of its avertive decoration. Most of them, indeed, would serve admirably in that position as a socket to hold such protect-

¹ See the illustrations of ancient monuments referred to above, p. 36, note 6.

² Tert. *De Spect.* 8.

³ Maass, *Die Tagesgötter in Rom und den Provinzen*, p. 167: "Die Tatsache steht jetzt fest dass die Tagesgötter oder die Planeten als solche in den römischen Thermen und Cirkus, jene erweislich seit Trajan, diese ungewiss seit wann, bildlich dargestellt und verehrt zu werden pflegten und die dort verkehrende Bevölkerung wirksam unter ihren magischen Schutz zu nehmen."

⁴ See p. 27, note 4.

⁵ Seligmann, *op. cit.* II, p. 138; Cichorius, *Die Reliefs der Trajanssäule*, Taf. cv. See in literature, Stat. *Theb.* IX, 688:

*nemorisque notae sub pectore primo
iactantur, niveo lunata monilia dente*

where the Scholiast comments on *lunata*: *in modum lunae curvata* (cf. Smith, *Dict. of Antiq.* s.v. 'Phalerae'). Again, on the neck of a tame stag, Calp. *Ecl.* VI, 43:

*rutiloque monilia torque
extrema cervice natant ubi pendulus apri
dens sedet et nives distinguit pectora luna.*

⁶ *Cynegeticon* I, 400:

*non illa metus solatia falsi
tam longam traxere fidem. collaribus ergo
sunt qui lucifugae cristas inducere maelis
iussere aut sacris conserta monilia conchis,
et virum lapidem et circa meletesia nectunt
curalia et magicis adiutas cantibus herbas.
ac sic affectus oculique venena maligni
vicit tutela pax impetrata deorum.*

ive ornaments as South Italian horses still wear, for instance, the long pheasant tail which nods defiance to the whole world of devils, as the animal runs.¹ The superstitious still place horns there,²



FIGURE 9.—ORNAMENT ON HORSE'S HEAD. (GUHL AND KONER.)



FIGURE 10.—FORK ON APEX OF HELMET. (ELWORTHY.)

and ancient representations of horses picture a special holder at just that spot between the ears, making an ornament out of a lock of hair (Fig. 9).³ Another natural place to fasten it would

¹ On these feathers compare Elworthy, *op. cit.* pp. 202 and 206. In Talmudical times the Jews used to protect their horses by such a *προμετωπίδιο*⁴ as it were, namely a fox's tail or a crimson plume fastened between the eyes: see *Jewish Encyclopedia s.v.* 'Amulet.'

² Seligmann, *op. cit.* II, p. 136. Elworthy, *op. cit.* p. 209, comments on the small branching horns that are placed between the ears of Neapolitan cab horses.

³ See in particular Millin, *Galerie Mythologique*, I, pl. xxx, fig. 93; pl. lx, fig. 234; II, pl. xcii, fig. 93; cxxxv, fig. 498; Reinach, *Répertoire de Reliefs Grecs et Romains*, III, p. 369, fig. 1, but also for various animals I, p. 237; II, p. 204; II, p. 281; Carl Robert, *Der Mûde Silen (Hallisches Winckelmannsprogramm)* p. 24; Smith, *Dict. of Antiq. s.v.* 'Ampyx'; Dar. et Sagl. I, p. 251, figures 298–299; Espérandieu *Recueil Général des Bas-Reliefs de la Gaule Romaine*, II, p. 215, fig. 1240. In Heydemann, *Zeus in Gigantenkampf*, the plate, reproducing a picture from an Apulian vase of about 225–175 B. C., shows horses with various upright ornaments or amulets between the ears, one of them with a trifurcate end. Our amulets might in some cases serve as the support for the top of the horse's mane, or forelock, erected as we see it in the works of art; for, as is well known, charms do not lose their efficacy by being in part or wholly concealed. Note finally that helmets seem sometimes to have had a small square fork at the apex (Fig. 10) on which to affix some prophylactic device or ornament; Elworthy, *op. cit.* p. 201; Wagner, *Antike Bronzen der Grossherzoglich Badischen Alterthümersammlung in Karlsruhe*,

be between the animal's shoulders with the horns directed outwards. In fact, we may suspect that it is precisely one of these amulets that is described in an epigram of Philodemus:

τόν τε περὶ στέρνοις κόσμον ὀδοντοφόρον

One that was set in this position the Greeks would probably call a *προστερνίδιον*.

And now, having relieved my mind of all I know and of all I dare surmise about these diabolical puzzles, I may sum up as follows. Their general likeness to one another indicates that they were intended for some one purpose, which could not have been any that the antiquarians have hitherto proposed. Their identification as amulets, while it satisfies all the conditions imposed by minor diversities in their structure, does not preclude the possibility that they may have had sometimes a secondary use for some utilitarian or ornamental service, for instance, as a socket on a headstall or as a support for an ornamental arrangement of a horse's forelock. The earliest specimens may be coeval with such prehistoric "horns of salvation" as the *tutuli*. I identify the projections as horns, which are often like other occult symbols more or less conventionalized. The prevalent number is three, as the prescriptions of magic have always made popular, the multiplying of the horns also heightening the potency of the symbol as in the case of other charms. The same motive is responsible for the addition of phalli, cornute heads, and the like, such as are often found as amulets, to increase their avertive powers. These bronzes have actually been found with the remains of harness. Their form recalls that of the *metae* which constituted the rounding-posts for chariots in the circus races. Since Consus was a god of agriculture and had similar deities associated with him in the Circus Maximus, one may think of these pillars as having been originally phalli, the most powerful of all amulets as well as the symbol of the reproductive powers

plates 17 and 20, in the first of which the holder is between two imitation horns. A three pronged iron was also occasionally inserted in the top of a sepulchral cippus, Espérandieu, *op. cit.* II, p. 337, fig. 1470. Curious is Addison's remark in the *Spectator* No. 59. "For the same Reason it is thought that the Forelock of the Horse in the Antick Equestrian Statue of Marcus Aurelius represents at a Distance the Shape of an Owl, to intimate the Country of the Statuary, who, in all probability, was an Athenian." For a possible representation of our amulets on the *dischi sacri* see Elworthy, *Horus of Honour*, fig. 162, 163, 166, and 299.

of nature. Their maintenance in the circus along with other prophylactics of a similar sort, of which I find mention, would be due to the peculiar dangers from magic which threatened the charioteers and also, in consequence of their enormous numbers, the spectators themselves. While a connection between the horn symbol and the *fascinum* or phallus seems to me probable, I venture upon no attempt to demonstrate it. Whatever its origin the horn type of amulet has always been a favorite protection for horses, which, next to children, are man's possession most defenceless against witchcraft. The peculiar construction of these particular amulets adapts them to stringing on chains, such as have been found in them, or to attachment by the rings. Archaeological remains somewhat support our belief in their use in the headstall of the animal, and at least one passage in literature seems to describe a *προστερνίδιον* of this sort.

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A POLYCLITAN STATUE AT WELLESLEY COLLEGE

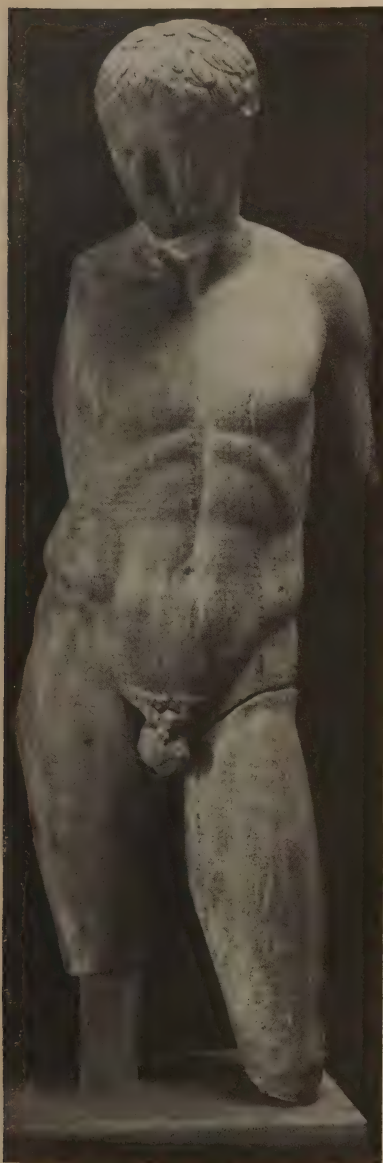
[PLATES I-II]

A STATUE of a youth, about life size, with marked Polyclitan characteristics has been in the possession of Wellesley College since 1905, when, from funds generously contributed by Miss Hannah Parker Kimball, it was purchased for the Farnsworth Museum of Art, where it is the most noteworthy of a small but interesting collection of ancient marbles. Although the figure has suffered sadly from weathering and careless treatment, it cannot fail to make a rare impression by the simple dignity and restfulness of its pose, and the intellectual quality of its expression. The theme which was chosen by the sculptor is simple, a young man, athletic but not overtrained, standing easily on his right foot with the left resting flat on the ground a little at the side, looking downward to the right, perhaps holding in his left hand an object of such slight importance that he pays no attention to it,—a youth caught in a moment of leisure and meditation (PLATE I).¹

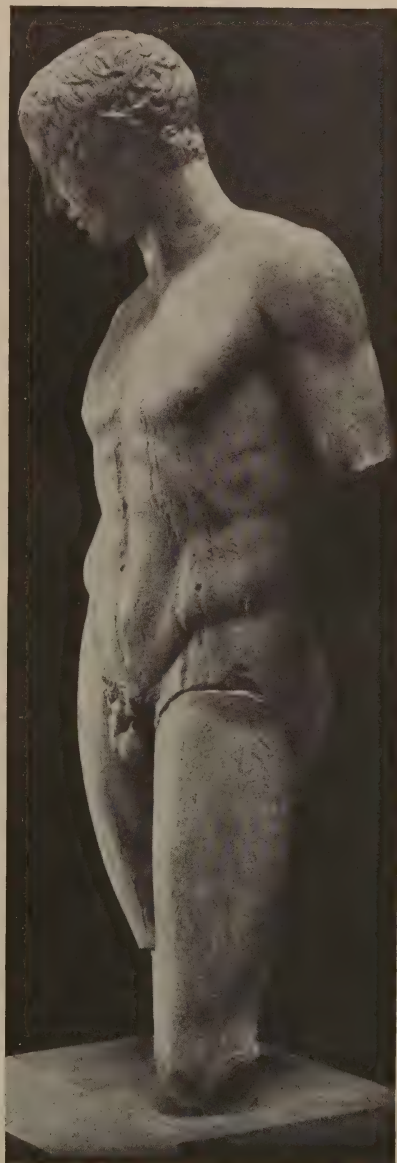
As was the fate of many of the statues which were unearthed during the sixteenth and seventeenth centuries, the missing portions of our figure had been restored without due regard for their correctness, as may be seen from the description in the catalogue of Matz-Duhn.²

¹ I am greatly indebted to the Administration of Wellesley College and the Art Department for permission to publish this statue, and wish especially to express my appreciation of the generosity which made it possible to have the head removed from the torso, without which the proof of my thesis would have been impossible. Thanks are also due to Professor Paul Wolters for information which enabled me to trace the earlier history of the marble.

² Matz-Duhn, *Antike Bildwerke in Rom*, No. 1000. "Etwas über lgr. Vollkommen nakt; von kräftigem Körperbau. R. Standbein neben ein Tronk; das l. Bein ist stark zur Seite gesetzt. Der l. Arm geht nieder, der r. thut dies bis zum Ellenbogen, der Unterarm geht aufwärts und die Hand findet sich etwa der Schulter gegenüber. Der Kopf hat den Typus des Doryphoros (mit getheilter Stirn) doch ist er auf einem zwischengefleckten Hals aufgesetzt und



A



B

POLYCLITAN STATUE AT WELLESLEY.



A

HEAD OF POLYCLITAN STATUE WITH NECK RESTORED: FROM A CAST.



B

The Roman dealer and worker in marble through whom the statue was purchased, apparently removed most of these earlier additions, and made some adjustments in the position of the head. The breaks in the neck, the right shoulder, and the left leg, as well as many minor disfigurements on the surface were filled in with colored plaster. The weight of the figure as it is now placed on the pedestal is thrown too far to its left, a position which detracts from the impression of rest otherwise made by it.

The material is a fine-grained marble which has weathered into a soft brown tint, except where the surface has been tampered with, as on the breast which has been so treated as to give it a hard cold appearance. The original surface is however preserved,—well-polished but not brilliant,—on the top of the shoulders, the arm, and on much of the torso and legs. Both the head and the torso have suffered from dripping water which has worn deep furrows down the left side. The hair on the right side of the head is worn down much as if it had lain partly exposed in the earth and been trodden upon, while the left side behind the ear has marks of weathering which are not continued on the torso below, showing that the head and the torso were not subjected to the same conditions. The lobes of the ears have been at some time cut off.

The right arm was originally made in one piece with part of the shoulder, and the deep square dowel-hole by which it was

somit seine Zuhörigkeit zweifelhaft, (jedoch stimmt der Körper mit dem Character des Kopfes vollkommen überein). Ergänzt sind am Kopf Nase und Kinn. Modern, ausser dem Hals, der ganze r. Arm mit einem Stück der Schulter, der l. Unterarm, beide Unterbeine, der Tronk und der Basis."

The principal measurements of the statue are:—

Height of Head,	0.271
Length of eyes and distance between them,	0.034
Length of torso,	0.504
Distance between nipples,	0.267
Left leg to knee,	0.532
Height of figure as it stands,	1.320
Estimated height of original,	1.890

Below are corresponding measurements of the Doryphorus and of the Idolino.

	Doryphorus	Idolino	Wellesley
Total height	1.980	1.500	ca. 1.890
Distance between eyes	0.04	0.0318	0.034
Length of face	0.20	0.147	0.189
Distance between nipples	0.31	0.215	0.267

fastened is seen in the torso (Fig. 1). Here, and at the end of the stump of the left arm, are surface cuttings which were used



FIGURE 1.—POLYCLITAN STATUE:
RIGHT SIDE.

when the restorations were made. There is a break in the upper right shoulder, and the left leg is also broken away from the torso, but these parts are correctly joined. The left leg is slightly in front of the right, not in the same plane as is the case with the Doryphorus and Diadumenus.

The left arm is thrown back and is well separated from the torso, a position which suggests that it was slightly bent at the elbow, and that the left hand held some weight. The swelling of the trapezius muscle between the neck and the deltoid, as well as the greater projection of the left clavicle indicates the same possibility, especially as the right shoulder, so far as its fragmentary condition allows us to judge, is much flatter (Fig. 2). Such a prominence of the left shoulder, combined with the flatness of the right, is found in both the Doryphorus and the Diadumenus, but is more marked in the latter.¹ This, like the greater contraction of the muscles of the right leg noticeable in our statue is one of the means of producing greater "swing," and is more marked in figures which emphasize the chiasitic or other free positions.

The right hand hung passive, near the leg, as we infer from the flat outline of the shoulder, and

¹ Petersen, 'Il Diadumeno di Policletto.' *B. Com. Rom.* XVIII, 1890, pp. 185-192.

the fact that, while there are no "puntelli" to support the arm, a surface of plaster on the outer side of the right leg suggests that one may have been broken or cut away at that point.

The statue belongs to the series of Polyclitan figures classed by Furtwängler as the *Athlete standing in repose*.¹ A more complete list is given by Lippold,² who has kindly called my attention to another head in Aix.³ Only two of the heads are now on torsos of the type: one in the Vatican,⁴ and the other at Wellesley College. It will be remembered that Von Duhn, although he conceded the exact correspondence in style and proportions of our statue, repeated the grave doubts of Matz as to whether the head belonged to the torso, basing his judgment on the insertion of the neck. There is great uncertainty in the case of the Vatican replica too, not



FIGURE 2.—POLYCLITAN STATUE:
BACK.

¹ *Meisterwerke*, pp. 493 ff.; *Masterpieces*, pp. 281 ff.

² 'Zu Polyklet.' *Jb. Arch. I.* XXIII, 1908, 203-208. The head A 10 in Lippold's series is now in the Metropolitan Museum. Cf. *B. Metr. Mus.* III, 1908, p. 7, fig. 7.

³ Espérandieu, *Recueil général des bas-reliefs, statues et bustes de la Gaule romaine*, III, 2499.

⁴ Amelung, *Skulpturen d. Vaticanischen Museums; Galleria delle statue*, No. 251. Amelung has suggested (text to Arndt, *Einzelaufnahmen*, No. 1137) that the head and torso, although not from the same statue, are both replicas from the same type, that which Furtwängler established. He has more recently expressed his conviction after seeing photographs of our statue, that we have both parts of the same statue.

only because of a similar insertion, but more significantly, because the marble of the head differs from that of the torso. We must therefore admit the possibility that Furtwängler was wrong in assuming that such a type existed in the fifth century, unless we can find sufficient evidence that the head and torso of our replica belong together. As a matter of fact, Furtwängler argued from less evidence than we have, as he did not connect our statue with the series at all, but based his supposition largely on the Vatican copy, confirmed by the bronze statuette in the Louvre.¹ Lippold, although he had seen only inadequate photographs of the Wellesley replica, was inclined to believe, in spite of the doubts of Von Duhn and of Amelung, that both heads belong to their respective torsos, on the ground that the coincidence of two heads of the same type being found with two torsos also of the same type is too strong to be accidental.

Realizing the importance of ascertaining the truth of the matter, I obtained permission to have the head removed from the torso. The dealer in Rome had assured me that the two belonged together. He wrote: "I can assure you that I have never doubted that the head belonged to the body: the perfect line which was secured in putting on the head, the same break of the neck, the quality of the marble, the same 'patina' of the two surfaces have all convinced me that the head belongs to the rest. I had to model the neck to fit it to the torso, but it used to be as it is at present. There is, I believe, a small portion of plaster in the break to supply a chip (*scheggia*) of marble which in the breaking of the statue was perhaps separated and lost." In spite of these reassuring words, however, it was seen on examination that the plaster had been cunningly colored so as to give an impression of a curving break in the torso fitting into the break of the head with only a line between. The plaster at the back had been carried over the polished surface about half an inch, concealing the fact that the line of the spine did not meet the head in the proper place, as the plaster covered the marble above and below the break. Both surfaces had been planed horizontal, and there was an insertion of plaster varying in depth from one cm. behind to four cm. in front to replace what had been described as a "*scheggia di marmo*." The head, however, was probably put on as it had been seen by Von Duhn, for in removing the plaster two layers were found, showing that the incorrect placing

¹ Furtwängler, *op. cit.*, pl. xxviii, 3.

of the head was the work of a time when mistakes of this kind were due rather to ignorance than deceit. The torso and head had both been cut away inside so that a large piece of iron could be fixed in the torso on which the head might rest. This prevents a correct adjustment of the head. It was disappointing not to find any coincident break between the head and torso, to establish without doubt their connection. Furthermore, the exaggerated inclination forward of the head and the consequent length of the neck were disconcerting. The possibility of our thesis did not seem hopeless, however, in view of the general impression made by the statue of harmony in proportion and style, as well as in the color and texture of the surfaces.

Fragments of the marble, chipped from the inside of the head and of the torso were submitted to Professor Harold W. Tomlinson of the Petrological Laboratory, Swarthmore, who after microscopic analysis assured me that the two were from the same marble, beyond a shadow of doubt.¹ This would itself be convincing unless we admit the possibility that the sculptor used adjacent blocks of marble for fashioning two different statues in the manner of Polyclitus of the same proportions, but of different types, and that we have the head of one and the torso of the other, —a supposition highly improbable. Furthermore, the vertical furrows in both head and torso, which are evidently made by dripping water, are corrugated in precisely the same way, and show that the marble has the same degree of density throughout. This is seen on the left cheek and on the torso below it just at the medial line of the abdomen (Fig. 3). Had the marble been of different densities at these points water would not have produced the same effect.

¹ Professor Tomlinson reports as follows:—"I have made sections of the two samples that you sent me, and upon examination find them to be the same rock. Recrystallization has taken place in the two marbles to the same extent and the grains are relatively the same size and have the same arrangement. The feature that would immediately identify the two samples as the same rock is the presence in both of small thin plates of a micaceous mineral, too small to positively determine, but most probably Phlogopite. Phlogopite often occurs in Marbles but would not be likely to occur in such similar form in two specimens from different localities. Chemical analysis would show nearly pure Calcium Carbonate, the Magnesium content being very small."

The Analysis follows:—

Mineralogical Composition, Calcite (Phlogopite?):

Texture, Granular crystalline:

Origin, Recrystallized sediment:

Rock Species, Marble.

But the evidence from the quality of the marble fails to convince if the head and torso cannot be brought into proper relation with each other. Owing to the inserted iron, experiments

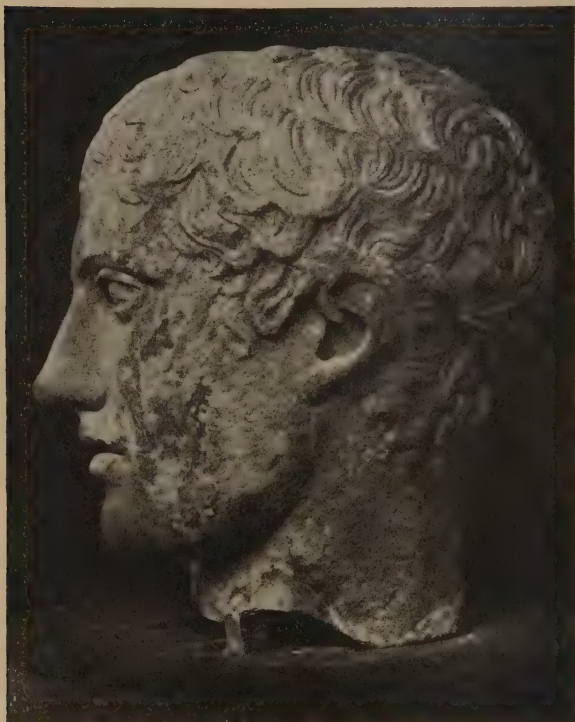


FIGURE 3.—HEAD OF POLYCLITAN STATUE.

with the marble itself were impossible, but a series of trials has been made with casts of the head and of the shoulders to ascertain the proper pose of the head. It was at once seen that the muscles of the right side, where the head comes nearest to the shoulder, are in perfect line with the corresponding muscles of the torso.

But if these lines are brought together, as well as the line of the spine, the head must be tipped so as to make the neck somewhat long on the left, the effect of which is exaggerated by the flatness and lack of modelling on that side. It is to be noted, however, that the long flat side is common to all the replicas of this type, as to a certain extent even in the severer Doryphorus, while the pose of the freer Polyclitan types necessitates the long stretch of muscle. Miss Ella Lucas, of the Department of Art at Wellesley College, a pupil of St. Gaudens, has kindly given her attention to the problem, and has successfully overcome the difficulty presented by this length without disturbing the relations of the muscles of the right side. That the head can be

brought to rest naturally on the shoulders may be seen from the photographs taken of the two casts welded together according to the design of Miss Lucas (PLATE II).

In the face of such evidence, it seems most improbable that the head and torso should not belong together. The proportions and the style, the identity of the marble, established both by analysis and by similar weathering and color, the corroborative evidence of the Vatican statue, and finally, the fact that without the least juggling with the surfaces, the neck can be restored so that the correspondence of the muscles is perfectly established, all give the strongest evidence for the genuineness of our statue as it now stands. If this is proved, the series of replicas of heads and torsos is established as a type.

Furtwängler held that the original of this type should be placed chronologically between the Doryphorus and the Diadumenus. Lippold, on the other hand, has expressed the opinion that it simply reverses the pose reflected in the youth by Stephanus, which was derived from the period before Polyclitus, with both feet flat, and bearing a weight, if in either hand, on the side on which the figure rests. According to him, this is the simplest of all the Polyclitan poses, and therefore precedes the Doryphorus. He then explains the greater lightness and flexibility of the figure by pointing out that the subject represented is a younger man, whose less developed frame would require a less severe treatment. But we cannot be sure that the weight was in the right hand. If the swelling of the muscles of the left shoulder indicates, as it does in the living form, that the greater strain was on that side, we must assume that the left hand carried the weight. The very decided backward bend of the upper left arm is inexplicable if the arm hung passive. The only evidence to the contrary is the position of the right hand of the bronze statuette in the Louvre, a fifth century original of this type. Here, the hand is so extended as possibly to hold a patera. But there is no reason why Polyclitus, even after he introduced the "walking" pose for the Doryphorus may not have created a type with both feet flat on the ground. The pose of the Idolino, a work showing strong Polyclitan influence, proves that such a treatment is not confined to works which precede the Doryphorus.

Now our torso resembles the Doryphorus in squareness of proportion with the characteristic shape of abdomen and chest,

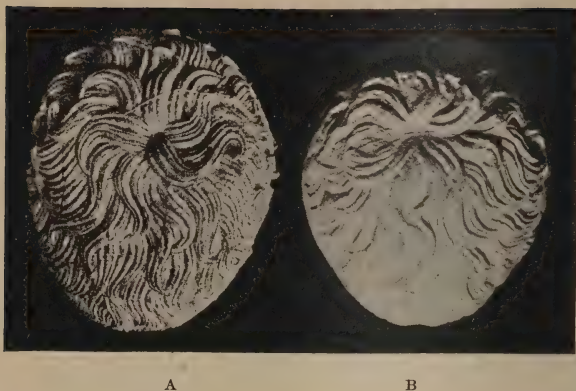


FIGURE 4.—HEADS OF (A) DORYPHORUS AND
(B) STATUE AT WELLESLEY.

thrust of the left leg, the delicacy of modelling, notably of the abdomen, and above all the shape and pose of the head, and the expression of the face. While the skull of the Doryphorus narrows from back to front, the type under discussion is even narrower across the forehead, and its oval is less elongated from back to front (Fig. 4). The face is longer in proportion and more tapering toward the chin, and the cheeks are flatter, so that the whole impression is more refined.

The forehead with its strongly defined horizontal furrow, the

the hard treatment of the lower line of the thorax, and the patternlike muscles. But there is an ease and lightness in the figure due to the flexibility of the medial line, the forward

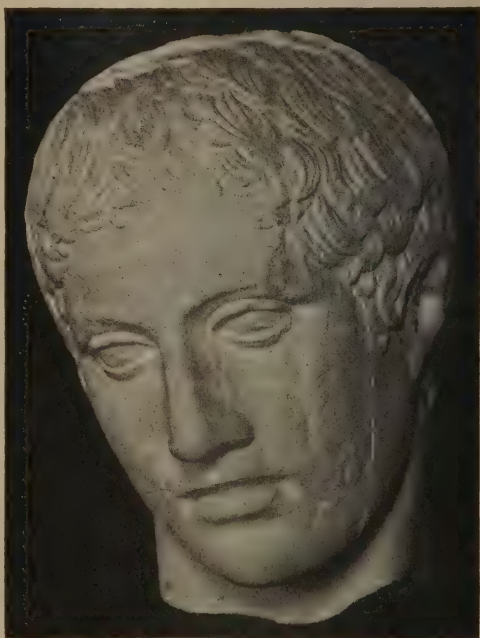


FIGURE 5.—HEAD OF POLYCLITAN STATUE,
FROM CAST.

eyebrows which rise sharply at the inner corners of the eyes to curve and broaden gradually into cushions on the outside, the well defined groove of the lids which melt away into the temples, the strong pull of the gaze downward and to the side, the parted lips, all give the face more earnestness and individuality of expression than is found in the Doryphorus and its derivatives. There is greater variety and delicacy in the treatment of the hair also. The locks, while clinging to the skull, are less distinct and are arranged without symmetry, although there is a slight parting over the centre of the forehead (Fig. 5). In front of the right ear they are short and curve forward simply, but on the left side a long lock is doubled back on itself and a flat end lies lower on the cheek. The whorl at the crown is very irregular.

The original of this type, then, depended for its charm upon the employment of subtle means to express the spiritual qualities of its subject. And it is just in the ability to reveal the inner life, and to give a personal quality to the face, that this type marks a distinct advance on the severer creations of Polyclitus. The contention of Lippold does not then seem to be upheld after examination of our statue, but we shall come nearer the truth by supposing that it belongs in time close to the later period of Polyclitus, even if, as was maintained by Furtwängler, it were not from his own hand.

ALICE WALTON.

WELLESLEY COLLEGE,
WELLESLEY, MASS.

A NEW MITHRAIC RELIEF FROM SYRIA

[PLATE III]

THE discoveries and investigations of the American expedition in the area of the temples of Ši' have made known an extremely valuable and unusual group of works of the first century B.C.; valuable not merely on account of their Augustan date but because they represent a native eastern art that had not yet been drawn into the sphere of Roman influence.¹

The director of the expedition, Professor Howard C. Butler, has very generously given me the privilege of publishing one of his discoveries. It is a relief of Mithra slaying the bull, which was unearthed inside the area of the great temple of Ši'² and is the most important piece of sculpture discovered.

The relief (PLATE III) is carved on a slab of basalt, 72 cm. high, 58 cm. wide, and 10 cm. thick, which undoubtedly belonged to a local subterranean shrine of Mithra situated at some point inside the temple area,³ but which has not thus far been located.

The surface seems in fairly good condition, except along the lower part of the right hand edge which has not only been somewhat broken but has had a part of the relief cut away,

¹ *Publications of the Princeton University Archaeological Expeditions to Syria in 1904-1905 and 1909. Div. II. Ancient Architecture in Syria*, by Howard C. Butler. Sect. A. Southern Syria. Pt. 6. Ši'. Brill, Leyden, 1916.

² *Ibid.* p. 398; ill. 344 B. What is here said of the relief is: "The most important piece of sculpture discovered here by the Princeton Expeditions was a relief in basalt illustrating the cult of Mithras which was found in front of the temple of Dūsharā. The slab is almost intact, it measures 58 by 72 cm. and is about 10 cm. thick. The subject of the main relief is the usual representation of Mithras wearing a Phrygian cap, sitting sideways upon the bull, with his left hand upon the bull's head and with his right plunging a knife into the bull's shoulder. The usual accompaniments are here, the dog licking the blood, the serpent and the scorpion; but there are other figures besides. . . ."

³ There are two temples at Ši': a smaller, outer, temple of Dūsharā, on the left side of the fore-court as one approaches the larger, inner, temple of Ba'al Shamīn. The relief was found in the fore-court, opposite the centre of the façade of the small temple.

obliterating some of the lower part of the dog and whatever else was to the right of the fore-front of the bull. The fact that the figured relief work is carried to the very edge of the block, allowing for no framing or even encircling band, would indicate that the relief was originally set in a recess or tabernacle, instead of standing free. This is confirmed by the rough, unfinished state of the back of the slab. In any case it was the cult-image of the sanctuary.

Before discussing the subject it will be necessary to give a brief summary of its symbolic meaning, for the benefit of those unfamiliar with the tenets and symbolism of the Mithraic religion.

The Divine Bull was created in the beginning by the supreme god, Ormuzd, as the source from which all the animal and vegetable life of the world was to proceed. But only through its death could the earth be made fruitful. Sacrificed by the young hero-god Mithra, emissary of the creator Ormuzd himself, the seed of the Bull was carried to the moon, there to be purified and held, and thence to descend at the right time to bring all things to life. Or else, the seed and blood were absorbed by the earth, to be given forth in due season. The time of the sacrifice was the end of the summer, when the life of nature was dried up, and the resurgence was to be in the spring time. It was another form of the myths of Tammuz, of Osiris, of Attis, and of Adonis. Mithra, as the sun-god, represented the action of the sun, in turn creative and destructive. At the end of the world in the universal resurrection the divine bull will reappear to suffer again a supreme sacrifice to endow all humanity with immortality.

At first blush there might not appear to be anything especially novel in the treatment of the scene, and one might consider it rather casually as merely a crudely executed addition to the already large corpus of these reliefs of Mithra, nearly all of which are published in Cumont's monumental work.¹ In this corpus there are a number of examples of the simpler form of the scene which seem practically identical. In Fig. 1 is a relief from Apulum in Dacia (C. fig. 172), where the similarities are striking: they are hardly less so in the Wallachian relief (C. fig. 123) of Fig. 2, and the North-Italian reliefs (C. figs. 105 and 87) of Figs. 3 and 4, as well as in Cumont's figs. 207, 208, 419, etc.

The bull is facing, as usual, to the right, having fallen forward

¹ *Textes et monuments figurés relatifs aux mystères de Mithra*, 1896-1899.

on one knee, in a quite impossible attitude, considering the bending of the kneeling fore-leg. The awkwardness is increased by the unexpected appearance of the left hind leg, in an equally impos-

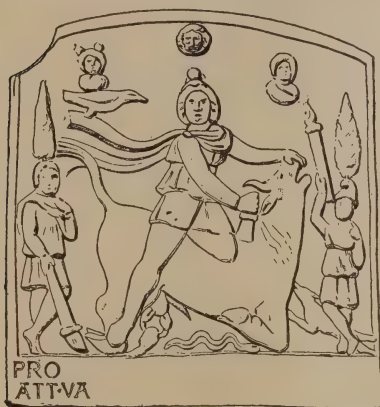


FIGURE 1.—MITHRAIC RELIEF FROM APULUM.

sible place between the serpent and the scorpion. Mithra is partly kneeling on, partly resting against, the bull's back and pulls its head back with his left hand while stabbing it with his right in the shoulder. As usual, also, he turns his head away. The bust of the sun occupies the left, and that of the moon the right upper corner, and the crow impinges on the sun's nimbus, appearing to rest on Mithra's flying drapery. The figure of Cauti, the

genius of Mithra with the raised torch, occupies the middle left side, and there can be little doubt that, after the analogy of all the other replicas of the scene, we should see the companion figure of Cautopati, with the lowered torch, in the damaged right-hand border, where it seems just possible to place him. The torch-bearer is as usual an exact replica, on a small scale, of the central Mithra, with the same cap and dress, though without much indication of detail. The dog is springing upward to the dagger's point. Under the bull's body are the serpent and the scorpion, which are indispensable to the scene. In the staging of the main group, the position of the bull and of Mithra, the flying drapery, and the costume itself run strikingly true to the formal type. The elements are the earliest and simplest used in such



FIGURE 2.—MITHRAIC RELIEF FROM WALLACHIA.

scenes without the lion or the vase or the trees, which seem to belong to a later evolutionary stage.

The hammered surface and broken edge on the right side of the relief have not only destroyed the lower part of the dog but obliterated the figure of the second torch-bearer. Still, there can be no question but that he must have been there. There is not a single Mithraic relief with just a single torch-bearer. In fact it is possible to distinguish, next to the bull, the outline of the down-turned torch which he held. He must either have been smaller than his mate or have stood somewhat lower, because his head could not have risen above the bull's chin.



FIGURE 3.—MITHRAIC RELIEF
AT VERONA.



FIGURE 4.—MITHRAIC RELIEF AT NAPLES.

A more careful examination shows at least two important variations from the normal type of reliefs of this class; variations in which this relief is either unique or almost so. They are so important that they would in themselves, I believe, prove that we have here a work that stands thus far alone in the Mithraic corpus. As it is the only one that was produced in a region geographically outside Roman territory, so it is, I believe, the only one that represents a Mithraic tradition unattached to the Hellenistic-Roman matrix from which the Mithraic monuments of the imperial age were turned out in such numbers, and with such uniformity.

These points are:

(1) The fact that the tail of the bull falls downward instead of curving upward;

(2) That the serpent instead of either rising toward the wound, as in most cases, or drinking out of a vase, or lying on the ground, is drinking from the bull's penis.

First, as to the position of the tail. Students of Mithraic symbolism are well aware of the function of the tail of the bull.¹ It is from the bull's spinal cord that the wheat springs that is to feed the world; while from its blood comes the vine that produces the sacred wine of the mystic rites. Therefore, in so many of the reliefs the upraised tail is represented as ending in wheat. The number of the ears represented varies; there may be one or three or even five, but the number is always uneven,—the uneven numbers being considered lucky. This is the orthodox Hellenistic-Roman formula. In our relief it is not followed. The break in the stone prevents absolute certainty as to how the tail ended, but it is hardly likely that from the end of the down-turned tail any wheat projected. Apparently the oriental mind did not require this touch of realism.

In the second place the variation in the function of the serpent is strikingly significant. It is generally admitted, I think, that the serpent in this connection represents the earth in its phase of receptivity preparatory to rebirth: chthonic force potential with future life. This is quite evident in such reliefs as Cumont, fig. 115, where the serpent lies outside the field of sacrifice. In the Hellenistic-Roman formula the serpent seems often to be drinking the blood of the bull directly from the wound, as it gushes forth when Mithra has planted his dagger. There are two variants from this formula in certain cases, where, as in Fig. 5 (C. fig. 99), the serpent lies close to the earth and may be depicted as drinking the blood as it trickles to the ground; or else, as in Fig. 6 (C. pl. VII), where the serpent is about to drink from the contents of a vase. What does this vase contain? This is a question that has not, I believe, been thoroughly discussed. It is natural to infer that its contents are not a hypothetical, generic, water of life, but something proceeding from or connected with

¹ A brief statement is in Cumont's abridgment, *The Mysteries of Mithra*, and a fuller one in his *Textes et Mon.* For the passages in Persian literature the translations in the *Sacred Books of the East* (ed. by Max Müller) are the most convenient source; both the *Zendavesta* and the later Pahlavi writings.

the sacrifice of the bull. And yet this inference seems not to have been drawn, and Cumont's conclusion is that the vase simply contains water.

The usually accepted interpretation of the vase is that it contains water symbolizing the element of water in the universe, as the lion is the symbol of fire, and the serpent that of earth, while Cumont considers the fourth element, air, to be symbolized by the Phrygian cap of Mithra, which sometimes appears alone, set on top of a pole. It is well known that the Mazdaeans worshipped the four elements, so that the above interpretation is both plausible and probable. But, should we not try to make a closer connection than this between the death of the bull and these subsidiary elements in the scene? Certainly the activity shown in some of the reliefs by the



FIGURE 5.—MITHRAIC RELIEF FROM BOLOGNA.

lion and the snake indicates not a state of cosmic indifference but participation in some dramatic incident. The fact that in so many cases where there is no vase the serpent is evidently drinking the blood of the bull directly from the wound, ought to be a sufficient proof that when, in the later and more elaborate *mise-en-scene*, a vase is introduced from which the serpent is made to drink, the liquid which he then drinks, is the same, *i.e.* is the bull's blood. While not excluding the later association of the crater with the water of life, it seems to me probable that the original Persian associations was with the bull's blood.

But there is a third possibility. It was from the seed of the bull transported at his death to the sphere of the moon, that creation was to be produced. In several reliefs the vase is so

placed under the bull as to suggest that the seed of the dying bull is being collected in it for preservation, for example in the Heddernheim relief in Fig. 6 (C. pl. VII).

Therefore the theory of the four elements as represented by lion, vase, serpent, and Phrygian cap, while it may be true of later symbolism, seems hardly applicable to the earlier naturalistic



FIGURE 6.—MITHRAIC RELIEF FROM HEDDERNHEIM.

stage when I believe that the blood and seed of the bull are alone in question as the sources of future life on the earth, represented by the serpent.

This gives, I think, the key to the function of the snake in the *Sî'* relief. Instead of representing it, in euphemistic fashion, as absorbing the seed of life at second hand, from a classic vase, it is receiving it directly from the source of supply. The fact that

even Hellenistic-Roman artists represented the seed of life as issuing, in one last outburst, from the bull, is seen in the most beautiful of all Mithraic reliefs, that at the Vatican (Cumont, fig. 37, p. 210), where the seed is being poured out upon the earth itself, to be absorbed by it. The mode of treating the theme in our relief has the customary directness of oriental sexual mysticism. As I have already said, there is no other known relief in which the serpent plays this part, and it seems to give weight to the interpretation of the contents of the vase as being the life-blood or seed of the bull.

As for the scorpion, while there is nothing unusual in this particular instance, it is interesting to refer to a general question that may be asked in connection with the Mithraic reliefs,—and this includes practically all—in which the scorpion is shown. The scorpion is always gripping the testicles, but only in one case, the famous large relief of the Capitoline Museum (C. pl. 1 and fig. 18) is he also certainly stinging with his tail. In our relief, as in the usual type, the scorpion's tail falls below his body. The scorpion, whatever else he may be doing, is not poisoning the life-containing tissues as is usually supposed, but is rather devouring and tearing them.

In suggesting a date for the relief the first criterion would be a comparison with the carved work on the temples themselves. Here we are on solid ground because a Nabataean inscription found at Si' states that the temple of Ba'al Shamīn was begun in 33–32 B.C., and the inscription itself was written in 13–12 B.C. A statue of King Herod was set up in the porch of the temple before 4 B.C. There was found an interesting head with a nimbus of sun-rays, which originally crowned the archway leading to the temple of Ba'al Shamīn, and evidently represents the god himself. There are other heads: of a trumpeter, of an almost life-size statue, etc. The technique is different from that of the relief of Mithra, being more archaic and sharp in outlines.¹ With our present limited material it is dangerous to deny that the relief could be as early as Augustus, but I should be inclined to place it somewhat later.

The non-Roman treatment, however, would be against dating it as late as 106 A.D. when Cornelius Palma, under Trajan, turned this part of the county into a Roman province, the *Provincia*

¹This is particularly evident in the treatment of nose and mouth.

Arabia. If this inference of a date in the first century of our era is correct, it would place this among the earliest known Mithraic monuments, most of which belong to the third century. This can be decided only by a careful comparison with works produced in this region and by the same pre-Roman school. The difficulty is that this part of the Hauran was artistically revolutionized by the Romans of the second and third centuries, so that to study the native schools, except in a very limited way, we must turn to such distant places as Palmyra.

A. L. FROTHINGHAM.

PRINCETON, N. J.



MITHRAIC RELIEF IN SYRIA.

EXCAVATED AT S^t BY THE PRINCETON EXPEDITION.

GENERAL MEETING OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA

DECEMBER 27-29, 1917

The Archaeological Institute of America held its nineteenth meeting for the reading and discussion of papers at the University of Pennsylvania, Philadelphia, December 27, 28, and 29, 1917, in conjunction with the American Philological Association, the American Historical Association, the Society for Biblical Literature and Exegesis, and the American Anthropological Association. Joint sessions for the reading of papers were held with these societies. The abstracts which follow were, with few exceptions, furnished by the authors.

THURSDAY, DECEMBER 27. 2.30 P.M.

Joint Session with the American Historical Association
Subject: Imperialism

1. Professor A. L. Frothingham, of Princeton, N. J., *The Cosmopolitan Religion of Tarsus and the Origin of Mithra.*

Tarsus, capital of Cilicia, at the gates of Asia Minor and Syria, is the ideal exponent of the cosmopolitan trend in the continuous life of the Mediterranean. Its legendary early foundation by a Hittite hero-god, Sandan, and its place in the Hittite Empire of the second millennium illustrate its fundamental Anatolian character. This was modified by the addition of a large early Hellenic colony, apparently Ionian, with traditions of foundation by Perseus. In the ninth century B.C. it came under Assyrian rule. Then for several more centuries it was the centre of a province of the Persian Empire; after which, under the Seleucid kings of the Hellenistic age, it was re-colonized with Dorian Greeks and Jews, from whose important colony came Paul of Tarsus. In this continuous history of some two thousand years while Tarsus never lost her Anatolian character she showed great hospitality to Greek ideas.

Tarsus worshipped the usual Hittite and Anatolian Triad: the Earth Mother-Goddess: the Sun Father-god; the young Son-hero-god. But as was the usual case, one of the three was selected as the patron god of the city. It was in this case the Son-hero. His name was Sandan. His symbol is the lion. The form in which he is worshipped at Tarsus is as the destroyer and re-creator. The central act of his cult is his self-immolation each year on a sacred pyre. The Greek element in Tarsus found the equivalent to Sandan in

their own Heracles blended with Perseus. This fact conversely sheds a light on the conception of Sandan. This much is a recognized fact: What I particularly aim to prove in this paper is: (1) That the killing of Medusa by Perseus was considered by the Greeks of Tarsus and Asia Minor as the equivalent of the sacrifice of Sandan. (2) That the sacrifice of the Divine Bull by Mithra was regarded by the Persians of Tarsus and elsewhere as also corresponding to the sacrifice of Sandan. Both these scenes appear on the coins of Tarsus. (3) That the scene of the Lion slaying the Bull, which is the coat of arms of the city, is also and primarily the emblem of the sacrifice of Sandan. Whatever may have been the primitive naturalistic meaning of the lion slaying the bull, it was never a mere animal fight, but always symbolic and religious. At a very early date it took an astrological meaning. The bull, "author of creation and resurrection," was killed by the Solar lion, representing the intense and finally the destructive heat of the sun. Perseus, the Destroyer, was called the winged lion, and Mithra as slayer was the lion, and merely takes the place of the lion on the back of the bull as an anthropomorphic substitute.

The second part of the paper treats of: (1) the Slaying of Medusa as the beginning of creation and immortality; and (2) the origin of Mithra in the Babylonian myth of the hero Gilgamesh.

My theory that Medusa was a form of the Mother Goddess acted upon by the powers of the sun was proved correct by the discovery of the archaic Corfu pediment; and the gorgoneion as a sun emblem is now recognized in France and Germany. The children of Medusa, Pegasus and Chrysaor, are symbols of the two elements of moisture and heat, water and fire. The idea of decapitation of a deity as the source of immortality in the world is early Babylonian.

The Babylonian epic of the hero-god Gilgamesh and his labors is recognized as the prototype of the Heracles myth. Both are solar and their labors are in the end zodiacal. Mithra also had his labors, also astrological, not clearly interpreted as yet. Perseus, in his labors was an understudy of Heracles. So it is natural to find that Sandan = Heracles-Perseus = Mithra = Gilgamesh. A small group of early Babylonian cylinders represents Gilgamesh not only as slaying the bull in nearly the same attitude as Mithra, but as part of a scene of fertilizing the earth with heavenly rains under the direction of the Sun-god and the Rain-goddess, which clarifies the Mithraic idea of the bull sacrifice along the very lines of Persian texts. This connection is fundamental in estimating the origins of Mithraism, which have been shrouded in mystery. Babylonian influence has been admitted only as a late element in the elaboration of the system under astrological influence about the sixth century B.C. My contention is that the type of Gilgamesh, first hero and king, then god, created before 2000 B.C., is in every way the original source of Mithra and corresponds also to Sandan. In all these cases the god is friendly with or embodied in the divine bull before the cosmic moment for the sacrifice arrives. The bull represents the life of each springtime as well as the creation of life, and the lion represents both the forcing and the desiccating powers of the sun. This was later embodied in the zodiacal signs of Taurus (April-May) and Leo (July-August).

No other archaeological papers were read at this session.

FRIDAY, DECEMBER 28. 9.30 A.M.

1. Miss Gisela M. A. Richter, of the Metropolitan Museum, New York, *What an Archaeologist can Learn at a Modern Pottery School.*

This paper endeavored to show how much an archaeologist can learn about Greek vases in a modern pottery school. The school visited was the New York State School of Clay-Working and Ceramics, in Alfred, N. Y., under the directorship of Professor Charles F. Binns. The processes in use today for wheel-made pottery were first reviewed, and Greek vases were then examined from the potter's point of view. This examination showed that the modern and ancient techniques were essentially the same, and that Athenian black-figured and red-figured vases were both "thrown" and "jiggered." It is to this process of "jiggering" that the precision and finish of Athenian vases of the sixth and fifth centuries are due. Lack of familiarity with the technical processes of pottery was shown to have led to many mistakes in archaeological accounts of this subject. Several new interpretations of scenes showing potters at work were suggested.

2. Professor Walton B. McDaniel, of the University of Pennsylvania, *The So-called Bow-puller.*

This paper is published in full in this number of the JOURNAL.

3. Professor Elizabeth H. Haight, of Vassar College, *An Inspired Message in the Augustan Poets: Apollo, the Sibyl, and the Imperial Theme.*

No abstract of this paper was received.

4. Professor David M. Robinson, of Johns Hopkins University, *A Cylix in the Style of Duris.*

This paper will be published in full in a later number of the JOURNAL.

5. Miss Cornelia G. Harcum, of Vassar College, *A Study of Dietetics among the Romans.*

No abstract of this paper was received.

6. Dr. Stephen B. Luce, of the University Museum, Philadelphia, *A Group of Etruscan Antefixes from Cervetri.*

This paper discusses a collection of archaic antefixes, discovered at Cervetri, and obtained for the University Museum in 1897. It attempts to date them on the evidence furnished by the style, and calls attention to similar examples in the British Museum, the Museum of Berlin, the Glyptothek Ny-Carlsberg, and the Metropolitan Museum in New York. This paper treats only the archaic antefixes from Cervetri; the other examples from this site will be discussed later. The paper will be published in the *Museum Journal* of the University Museum, Philadelphia.

7. Mr. Charles Henry Hart, of New York, *The Genesis of Painting in North America*.

No abstract of this paper was received.

FRIDAY, DECEMBER 28. 2.30 P.M.

Joint Session with the Society for Biblical Literature and Exegesis

1. Professor George A. Barton, of Bryn Mawr College, *The Identification of a Portrait Statue of a Semitic Babylonian King*.

Dr. Edgar J. Banks in his *Bismya, the Lost City of Adab*, p. 256, publishes a picture of an alabaster head of a Semite which he found in the temple Emakh at Adab. The paper argued from the similarity to known portraits of Manishtusu and Naram-Sin, as well as from archaeological evidence of his work at the temple, that probably the head is a portrait of Shargalisharri, the successor of Naram-Sin. Other possibilities were considered and shown to be less probable.

2. Professor Warren J. Moulton, of Bangor Theological Seminary, *A Greek Inscription from Namroun*.

No abstract of this paper was received.

3. Professor Charles C. Torrey, of Yale University, *Certain Details of Decorative Design in the Art of Western Asia*.

Interesting illustration of the persistence of artistic motives, even when transplanted far from the land of their origin, is afforded by the history of certain decorative details which are chiefly familiar to us in Byzantine and early Mohammedan architecture. The following motives, conventionally employed in the decoration of gateways, are familiar both in the ruined edifices of Western Asia and in the Christian architecture of mediaeval Europe: The two-headed "Hittite" eagle, the sacred tree, intertwined dragons, and other strange creatures, originally mythological, treated in a decorative way and commonly arranged symmetrically. Especially noticeable are certain typical lions, sometimes appearing in pairs, the tail of one ending in a bird's head, and of the other in an ornamental knob; also a beast (often composite) with a pointed or griffin-like snout. These gateway decorations are all found in the art of Mesopotamia and Eastern Asia Minor as early as the time of the Assyrian ascendancy. They were adopted and extensively used by the Byzantine artists, and thus passed over into architectural decoration especially in the mediaeval Italian churches.

4. Professor Kemper Fullerton, of Oberlin Theological Seminary, *A Note on Nehemiah 12:30 (Nehemiah's Procession)*.

No abstract of this paper was received.

5. Dr. John Shapley, of Brown University, *The Dedication of a Syrian Church*.

The purpose of this paper was to call attention to some literary sources for the study of Syrian Christian architecture: the Apostolic Constitutions, the Testament of Our Lord, and Balai's Hymn on the Dedication of the Church at Chalcis. It will be published in a more complete form.

6. Professor Albert T. Clay, of Yale University, *A Short Greek Inscription from Babylonia*.

No abstract of this paper was received.

SATURDAY, DECEMBER 29. 9.30 A.M.

Joint Session with the American Anthropological Association

1. Miss Georgiana G. King, of Bryn Mawr College, *Three Unknown Churches of Spain*.

This paper will be published in full in a later number of the JOURNAL.

2. Professor A. L. Frothingham, of Princeton, N. J., *The Footgear of Immortality in the Redating of Roman Sculptures*.

A fact not known to archaeologists is that Etruscan and Roman art reserved a certain special kind of footgear for figures representing persons that are not mortals, or not at the time living in our mortal world. It is given to gods, to genii, demons, personifications and other allegorical figures, and to human beings represented after death. It is the footgear of the superman. It is a high leather boot, usually with a heavy long *revers*, decorated with the paws and heads of the wild animals from whose skins the boots are made. On the Etruscan funerary urns and sarcophagi the numerous demons and genii nearly always wear these high boots: the hammer demons, snake demons, torch demons, the genii of death and immortality, and the genii of the deceased and of the grieving family. Rome inherited the idea from Etruria. Often the deceased was represented twice on his urn or sarcophagus: once as a mortal and once as an immortal after death. In the first case he is given the ordinary footgear: in the latter the footgear of immortality of the heroized dead. It follows, then, (1) that by this means mortals may be distinguished from immortals; (2) that it can be shown whether or not the statue of a Roman emperor was executed during his lifetime; (3) in the case of certain monuments we can now tell whether they were built or completed before or after the death of the emperor to whom they are dedicated. Thus the wonderful triumphal arch at Beneventum was finished after Trajan's death, and the famous battle reliefs of Trajan used in the arch of Constantine must have belonged to a posthumous Parthian arch of Trajan hitherto unknown. In both cases the emperor Trajan wears the footgear. In the Parthian triumph, the ashes of the dead emperor headed the triumphal procession, on the return of the army from the East; hence the sculptor represented Trajan entering Rome with the footgear of immortality.

3. Professor A. L. Frothingham, of Princeton, N. J., *The Wheel of Life and the Story of Myrtilus*.

The editor of the corpus of Etruscan funerary urns, Dr. Körte, interprets a large group of sculptured scenes in which there is a detached wheel held by a central figure, as representing the death of Myrtilus. This young charioteer of King Oenomaus betrayed his master in his death race with Pelops who was carrying off Hippodameia, the daughter of Oenomaus. He tampered with one of the chariot wheels which came off so that Oenomaus was thrown and killed, instead of Pelops. But Pelops, knowing that Myrtilus was himself in love with Hippodameia, on the return trip cast him over a cliff into the sea. In several vase paintings of the South Italian school of a funerary character this story is worked into the scenes depicted. The connection of the wheel with death was too obvious to be missed. But to extend this connection of the scenes on the Etruscan urns and other groups of scenes in which a wheel is introduced and to call them representations of the Death of Myrtilus, an identification which is generally accepted in the archaeological world, is an entire mistake. The central idea associated with the wheel is that it is the Wheel of Life. It is often thought of as the Sun Wheel, because the sun gives life in its course across the heavens. The symbolism is unquestioned. A point I wish to prove is that the wheel represents *this mortal life*. In this group of Etruscan sarcophagi there is no question of Myrtilus or of the death of Myrtilus. In any event the wheel as connected with Myrtilus does not symbolize his own death at all but the death of Oenomaus! And when Myrtilus is represented with the wheel in the South Italian vases, he is given merely as illustrating the Wheel of Life symbolism: in other words as subsidiary. But on the urns he does not even appear. The deceased, with one knee on the altar, is holding desperately to the wheel of his mortal life: but it is being wrested from him by a female demon, while a male genius slays him with a sword. He thus passes from what the Orphic texts call the sorrow-giving troublous wheel of mortal life to life immortal in the bosom of mother Persephone. There is no mythology on these urns: merely a representation of the passing of the soul from one kind of life to another. So on several South Italian vases, especially those where Persephone and Hades are judging the souls of the departed, the suspended wheels that one sees are emblems of mortal lives cut off and to be judged. Wherever the wheel appears it symbolizes a lost mortal life. In the wonderful scene of the blind Polymestor, groping forward with hands extended, the two wheels that flank him represent his two sons who were killed to expiate his crime. All this also is my proposed interpretation. The error of reading a scene of Greek mythology (Myrtilus) into what was really a scene in the life of the person buried in the urn, illustrates a fundamental and general error in the interpretation of Etruscan and Roman funerary monuments. The connection with the life of the person, which is the important fact, has never been properly understood, nor the mythological scenes placed in their proper subordinate position.

4. Mr. L. D. Caskey, of the Museum of Fine Arts, Boston, *The Figures in the Wings of the Ludovisi Relief and its Counterpart in Boston*.

This paper will be published in an enlarged form in a later number of the JOURNAL.

5. Dr. J. Walter Fewkes, of the Smithsonian Institution, *Pre-historic Castles and Towers of our Southwest*.

This paper will be published in full in *Art and Archaeology*.

6. Mr. Leicester B. Holland, of the University of Pennsylvania, *The Horseshoe Arch in Northern Spain*.

This paper will be published in full in a later number of the JOURNAL.

7. Professor J. C. Hoppin, of Bryn Mawr College, *Some Unpublished Greek Vases in an American Collection*.

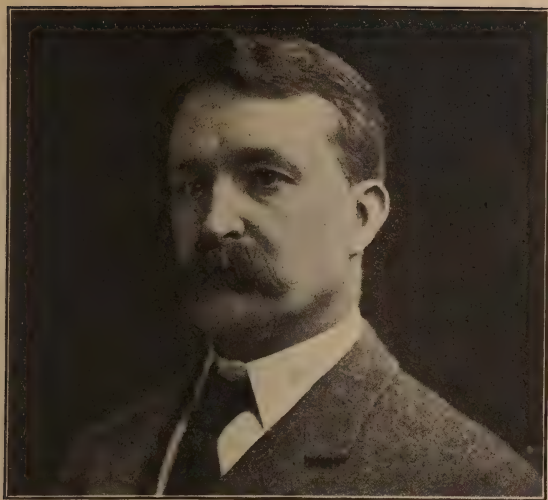
The vases acquired by me during the years 1894-1900 are for the most part now in Pomfret, Connecticut, though a dozen of the best specimens are on loan in the Boston Museum of Fine Arts. They include examples of almost every kind of Greek vase from Mycenaean times to the late fourth century. The best are: a Chalcidian column-crater; a Corinthian cylix with cover with decoration on interior, exterior, and cover; a black-figured lecythus with a quadriga; two black-figured cylices of the "Kleinmeister" type; two red-figured cylices of the Epictetan cycle; a column-crater somewhat akin to the early period of Euphronios' activity; an unsigned cylix by Duris, a cylix by the Penthesilea Master; two stamni very similar in style to the work of the Achilles Painter, though perhaps not actually from his hand; and several red-figured vases of different shapes. Among the latter may be mentioned a pelice having a representation of Heracles carrying two wine jars on a pole over his shoulder (in similar attitude to the figure on the Selinus metope) on the obverse, and on the reverse a Satyr wearing skirts drawing water from a well-sweep, perhaps the most complete specimen of that object on any vase painting.

8. Miss Fern Helen Rusk, of New York, *An Unpublished Madonna by Lambert Lombard*.

Very few extant paintings are attributed to the once-famous Lambert Lombard, and none of those that art critics have assigned to him are attested either by autograph or contemporary records. This condition gives a very elusive character to the study of the master's work and renders especially important the presentation of a hitherto unnoticed painting by the artist, signed and dated. The painting in question is in the Brown University collection. It is in oil on panel (27 by 21 in.) and represents the Madonna enthroned with a landscape at the sides. The signature and date, "L. Lom., 1557," are inscribed on the marble floor in the lower left corner of the panel.

In this well-preserved panel we have a valuable touchstone for the various attributions that have been made to Lombard. By comparison with it the attribution of "Christ Taking Leave of His Mother" in the Glasgow Art Gallery is confirmed and that of the "Adoration of the Shepherds" in the Imperial Gallery of Vienna refuted. It is to be hoped that the signed Madonna

will also be the means of restoring other Lombards now ascribed to different masters, to their rightful owner. A promising field for this study is to be found in some of the Madonnas vaguely attributed to Mabuse, with whom Lombard was for some time closely associated. Particularly, two examples, one in the Glasgow Art Gallery, the other in the Prado, may be reasonably assigned to the painter of the Brown University panel.



James Rignall Wheeler

Columbia University, the American School at Athens, the Archaeological Institute of America, and the interests of archaeological, classical, and broadly humanistic studies in the United States have suffered a severe blow in the loss of Professor James Rignall Wheeler, who died, after a brief illness, at his home in New York, February 9, 1918.

Professor Wheeler was born February 15, 1859, at Burlington, Vermont, where his father was president of the University of Vermont. In his boyhood he visited England and the continent of Europe; he received his bachelor's degree from the University of Vermont in 1880, the degrees of A.M. and Ph.D. from Harvard University in 1885, and the honorary degree of LL.D. from the University of Colorado in 1914. When the American School of Classical Studies at Athens was opened in the autumn of 1882, he was one of eight young men who gathered there, led by high enthusiasm and ardent, if somewhat indefinite, hopes that the new opportunities would bring new knowledge and appreciation of the meaning and beauty of Greek literature; for there was at first little or no expectation of doing any specifically archaeological work. Most of the associations begun in that year have been broken only by death. Professor Wheeler's interest in the School was constant and active. In 1892-1893

he served as Annual Professor; he was Secretary of the Managing Committee, 1894-1901; and his service as Chairman of the Managing Committee, beginning in 1901, continued until his death.

After attaining the doctorate at Harvard, he spent a year, 1885-1886, in Germany; he was Lecturer at Johns Hopkins University in 1886, Instructor at Harvard, 1888-1889, and Professor in the University of Vermont, 1889-1895. In 1895 he was made Professor of Greek in Columbia University, where he became Professor of Greek Art and Archaeology in 1906. For five years, 1906-1911, he served also as dean of the Faculty of Fine Arts.

Professor Wheeler was not a voluminous writer, his longest single printed production being the chapters on Vases and on Painting and Mosaic in the *Handbook of Greek Archaeology* by Fowler and Wheeler (1909); but in those chapters, in his contributions to the AMERICAN JOURNAL OF ARCHAEOLOGY and other periodicals, in occasional lectures and addresses, and in his admirable reports as Chairman of the Managing Committee of the School at Athens, he displayed the qualities which won for him an important position among American scholars. His work is marked by scrupulous exactness in detail, combined with unusual breadth of view and great felicity of expression, or rather, fine feeling for English style. His influence as a scholar was exerted, however, more in other ways than by published writings. He devoted much time and energy to his classes and to the publications, not merely of his pupils but also of those who stood to him in some other, more or less official, relation. He was an invaluable member of the Publication Committee of the School at Athens.

As an executive officer he exhibited the same breadth of view and care in details which marked his published writings, and his tactful treatment of the opinions and peculiarities of others was remarkable. In all the relations of life he was invariably courteous, and his lively sense of humor not only saved him annoyance in discussions which might easily have been disagreeable, but made him a most charming companion under all circumstances. He will be sadly missed by those who were privileged to be his friends, the wider circle of his acquaintances will feel the lack of his genial, courteous, and kindly presence, and the institutions and interests to which his life was devoted will lament the absence of his guiding and restraining voice.

H. N. F.

ARCHAEOLOGICAL NEWS¹

NOTES ON RECENT EXCAVATIONS AND DISCOVERIES; OTHER NEWS

WILLIAM N. BATES, *Editor*

220, St. Mark's Square, Philadelphia, Pa.

GENERAL AND MISCELLANEOUS

NECROLOGY.—Émile Bertaux.—Born in 1869, Émile Bertaux died January 8, 1917, of pneumonia contracted in military service. After having been professor at Lyons he became professor at the Sorbonne in 1912. His first important work was on the art of Southern Italy from the end of the Roman Empire to the conquest by Charles of Anjou. In the series of *Villes d'art célèbres* he contributed three volumes on the antiquities and monuments of Rome (1904-1905). In 1910 he published a monograph on Donatello. But his most important contributions were in the study of Spanish art. His chapters in André Michel's *Histoire d'Art* are of the greatest importance. He was also the author of numerous valuable articles in periodicals. (S. R., *R. Arch.*, fifth series, V, 1917, pp. 234-235; fig. See also the *Epoca*, Madrid, January 27, 1917, reprinted *ibid.* p. 235.)

Max Burchardt.—Dr. Max Burchardt, Assistant in Egyptology in the Berlin museum since 1910, died of wounds received in battle in France in September, 1914. He was born in 1885, studied at Berlin and Leipzig and was for several years engaged in work upon the Egyptian lexicon of the Berlin Academy. (*Ber. Kunsts.* XXXVI, 1915, col. 240.)

Morton W. Easton.—Morton William Easton, Professor of Sanscrit, emeritus, in the University of Pennsylvania died August 21, 1917. He was born at Hartford, Connecticut, August 18, 1841, graduated from Yale College in 1863, and from the Columbia University Medical School in 1865. He also studied medicine in Vienna, but found the practice of it uncongenial and returned to Yale where he took the degree of Ph.D. with a major in Sanscrit in 1873. The rest of his life was devoted to teaching. He was a very learned man in many different fields. Among his few publications was a pamphlet entitled *The Terrace at Persepolis*.

Joseph Halévy.—The distinguished orientalist Joseph Halévy was born at Adrianople December 15, 1827, and died at Paris, January 21, 1917. His special fields were biblical research, Semitic inscriptions, and Semitic history.

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Dr. T. A. BUENGER, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Dr. JOHN SHAPLEY, Professor A. L. WHEELER and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after January 1, 1918.

For an explanation of the abbreviations, see pp. 99-100.

In this field he was an indefatigable worker. (S. REINACH, *R. Arch.*, fifth series, V, 1917, pp. 239-242; fig.)

Ernest Leroux.—In *R. Arch.*, fifth series, V, 1917, pp. 350-352 (portrait), S. REINACH publishes an appreciative obituary notice of the distinguished publisher of the *Revue Archéologique* and many other learned periodicals and books, Ernest Leroux, who died at Paris, May 20, 1917, in his seventy-third year.

Lucien Magne.—Inspector general of historical monuments, professor at the École des Beaux-Arts and the École des Arts et Metier, Lucien Magne died at Eaubonne, July 28, 1915, aged 67 years. He was the author of restorations of several important buildings of ancient France, of an able volume on the Parthenon (1895), and of articles, in the *Gazette des Beaux-Arts*, on the ruins of Mistra. (S. R., *R. Arch.*, fifth series, V, 1917, p. 243.)

Jean-Baptiste Mispoulet.—The dean of the "secrétaires-rédacteurs" of the Chambre des Députés, Jean-Baptiste Mispoulet, died at Paris, in May, 1917. He was born in 1849, and was a pupil of Léon Renier and E. Desjardins. He was the author of a work on Roman political institutions and of various articles on Roman epigraphy and antiquities, especially military antiquities. (S. R., *R. Arch.*, fifth series, V, 1917, p. 353.)

Raphael Petrucci.—Raphael Petrucci, one of the most brilliant connoisseurs of the art of the Far East, especially of Chinese art, died at Paris, February 20, 1917, at the age of 44. He was the author of several works on the art and artists of the Far East. (S. R., *R. Arch.*, fifth series, V, 1917, p. 242.)

Jaro Springer.—Dr. Jaro Springer, for more than thirty years connected with the "Kupferstichkabinett" of the Berlin museum and its Curator since 1909, was killed in battle on the eastern front August 13, 1915. He was born November 8, 1856. (*Ber. Kunsts.* XXXVI, 1915, col. 239.)

Edward Burnett Tylor.—Sir Edward Burnett Tylor was born at Camberwell, October 2, 1832, and died January 2, 1917. His most important work is *Primitive Culture* (1871), which has passed through many editions and been translated into many languages. He was one of the most distinguished of anthropologists. (S. R., *R. Arch.*, fifth series, V, 1917, p. 353.)

SUVLA BAY.—Two Sepulchral Inscriptions.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 166-168, C. A. HUTTON publishes two sepulchral inscriptions found in 1915 by Captain G. A. Auden, R. A. M. C., near the Salt Lake, Suvla Bay. The first, on a sarcophagus, records that it was set up by Flavia Prima for herself, her husband Cl. Marcus, and her son Cl. Marcus. The second, on a marble slab, was set up by G. Iulius Italus for himself and his wife Cl. Ti. Tulla. Each establishes a fine of 1500 denarii for use of the tomb by others. The second inscription expressly states that the children and relatives are excluded from the use of the tomb. Both inscriptions are in Greek. Their date is probably the latter part of the first century A.D.

EGYPT

DENDEREH.—Excavations of the University of Pennsylvania.—In the *Museum Journal*, VIII, 1917, pp. 230-237 (7 figs.), C. S. FISHER reports briefly upon the excavations of the expedition of the University of Pennsylvania at Denderah. As digging can be carried on at Memphis during the spring months only, because of the Nile flood, the remainder of the time is devoted to Denderah. Work was begun here in the cemetery of the seventh

dynasty and a great number of graves opened. A vast quantity of material of all kinds has been collected. The cemetery was used from the second dynasty down to Moslem times.

MEMPHIS. —
The Palace of Merenptah. — In the *Museum Journal*, VIII, 1917, pp. 211-230 (13 figs.), C. S. F(ISHER) reports upon the excavations of the expedition of the University of Pennsylvania in the palace of Merenptah at Memphis. The building was constructed with massive walls of sun-dried brick and columns and door-facings of limestone. The ancient level is from 16 to 18 feet below the modern so that, although much digging had been done by natives on the site, the remains of the palace were not disturbed. So far a portion of the eastern wing only has been excavated (Fig. 1). There was a court 175 feet long and 80 feet wide paved

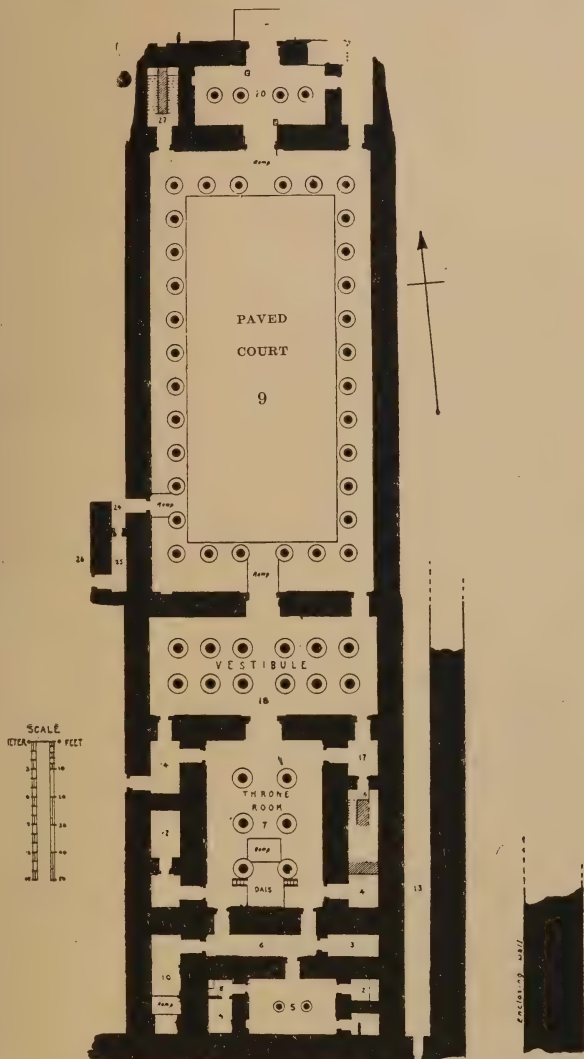


FIGURE 1.—PART OF PALACE OF MERENPTAH.

with irregular limestone blocks and surrounded by a colonnade of thirty-two columns with papyrus capitals. The floor under this colonnade was a little higher than that of the court. The columns, which were built up of separate drums, stand upon bases inscribed with attributes of the king, no two inscriptions being exactly alike. The shafts of the columns were

also inscribed, and carved with reliefs usually representing Merenptah performing rites before Ptah. The background was yellow and the inscriptions were filled in with blue. The walls of the court were coated with mortar over which was a hard white stucco painted with regular panels and patterns in red, yellow, and blue. In the middle of the south side of the court was a doorway 10 feet wide and 23 feet high. The door-framings were of limestone with reliefs and faience inlay. On the jambs were also cut reliefs accompanied by inscriptions inlaid with faience. On the lintel were gilded figures in relief of the king before the gods. In front of this doorway was a vestibule the roof of which was supported by twelve columns similar to those of the court, but larger. The inscriptions on them were inlaid in faience, and the figures in the bands of relief overlaid with thick gold leaf. The floor was of sun-dried brick covered with a painted stucco pavement. Three doors led from this vestibule, the middle one opening upon the throne-room which was 60 feet long and 41 feet wide. Six columns of the same design as the others supported the roof. The dais on which the throne rested was 13 feet long and 16 feet wide and raised twenty inches from the floor. It was approached from in front by a ramp, but there were steps on the sides for the use of the king. The entire surface of both ramp and dais was covered with colored reliefs representing the ten nations subdued by the king. The walls of this room were adorned with painted stucco with some details picked out in gold. In the narrow passages to the east and the west of the throne-room were limestone windows. Near the throne-room were apartments evidently used by the king on state occasions. At the north end of the great court there was another doorway similar to that at the southern end and remains of a balcony which had been above it. This is the first instance of such a structure actually found, though they are known

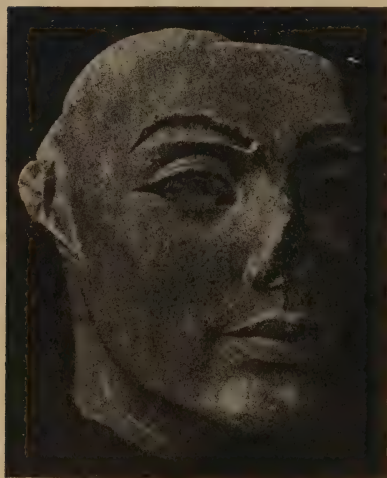


FIGURE 2.—EGYPTIAN PORTRAIT.

from reliefs. A flight of steps still partly preserved at the west of the vestibule within this doorway led up to it. This vestibule was considerably smaller than the one in front of the throne-room. Only four small columns supported the roof, but these were richly decorated. East of the southern apartments is a long narrow passage-way bordered by a wall twelve feet thick and outside of this another passage shut in by the boundary wall of the palace twenty-one feet thick. West of the great court is an outer court with pavement of colored stucco as yet only partly excavated. The palace also seems to extend a considerable distance to the north. After the death of Merenptah the building was used for different purposes and some of its doors blocked up, and shortly

afterwards it was destroyed by fire. Five distinct towns were later built upon

the site. Few small objects were brought to light by the excavators; the most interesting was a fine portrait head (Fig. 2) a little less than life size, perhaps of Akhnaton. In the stratum of Ahmose II, the last king before the Persian occupation in 525 B.C., a cache of gold and silver jewelry of very fine workmanship was found. The palace has so far been cleared for about three quarters of an acre. It was probably about 400 feet long from north to south. (*Ibid.* pp. 98-99.)

GREECE

ATHENS.—The French School in 1916.—In 1916 the excavations of the French School at Athens were seriously interfered with by the war and the School finally closed. Previous to this M. Plassart was able to do considerable work at Delos. On Mount Cynthus he found remains of a temple earlier than that of Zeus Cynthius and Athena Cynthia discovered in 1873. The second summit, to the southeast, was dedicated to Zeus Hypsistus. Two new oriental sanctuaries with Sabaeian inscriptions were also unearthed, and the paths which led to the summit of the hill thoroughly cleared. The School also arranged to publish together all archaeological notes made by the French troops in Macedonia. (B. HAUSSOULLIER, *C. R. Acad. Insc.* 1916, pp. 605-608.)

ITALY

CAULONIA.—Excavations 1912 to 1915.—In *Mon. Ant.* XXIII, 1916, cols. 685-948 (18 pls.; 182 figs.), P. ORSI publishes in detail the results of his excavations at Caulonia from 1912 to 1915. He describes the site, its prehistoric remains, the city defenses, remains of houses, the temple, and the western cemetery. The most important building excavated was the temple, a hexastyle, peripteral temple of the Doric order with fourteen columns on the sides. Its cella was 15 m. long and 7.50 m. wide. It appears to date from the early part of the fifth century B.C., but there is no evidence to determine to what god it was dedicated. Pieces of the sima of terra-cotta decorated with a palmette and honeysuckle border were found. West of the town is a cemetery in which 130 graves were opened. Most of them date from the fifth and fourth centuries B.C., but a few are earlier and a few later. They contained the usual funeral furniture of the time. To the north lies another cemetery of later date when the town was poor. A hoard of eighteen coins from Sybaris, Croton, Thurium, Caulonia, and Terina came to light, but is of little numismatic importance.

LANUVIUM.—Tombs with "Latian" Pottery.—In *Not. Scav.* XIV, 1917, pp. 30-31, G. LUGLI reports the discovery of tombs with pottery of the "Latian" type.

LOCRI EPIZEPHYRII.—Excavations of 1914 and 1915.—In *Not. Scav.* XIV, 1917, pp. 101-167, P. ORSI gives an account of the excavations in the necropolis called Lucifero during 1914 and 1915. Many interesting objects were brought to light, including large numbers of astragali, an *αἶλος* of bone, and vases. Two handsome bronze mirror handles represented, one Europa carried away by the bull, and the other the archaic figure of a woman standing on the back of a tortoise. The latter was 19 cm. high and belonged to a mirror 17 cm. in diameter. Perhaps the most interesting object was a handle of

ivory in the form of a column, surmounted by the figure of a woman in a short-sleeved Doric chiton, of beautiful workmanship and showing traces of chryselephantine decoration. It may, perhaps, have been the handle of a fan or something of the kind. There were also two bronze hands, apparently talismans, of which the left had a bar between the thumb and the fingers, on which were two wheels.

MESSINA.—Discoveries in 1910-1915.—In *Mon. Ant.* XXIV, 1917, cols. 121-218 (57 figs.), P. ORSI describes some of the tombs opened by him in the Roman cemetery of S. Placido, Messina. Its limits have not yet been determined, but the coins and the many small inscriptions brought to light fix the date from the first to the third century A.D. The contents of the tombs were of no particular interest, but among them were two *defixiones* written in Greek. Other finds in Messina from 1910 to 1915 are also recorded.

OSTIA.—Excavations in 1917.—In the spring of 1917 excavations were carried on at Ostia north of the Via Decumana, between the theatre and the temple of Vulcan. East of the Via di Molini a heavy wall of large tufa blocks was uncovered, but it is not clear to what building it belonged. Two well-preserved houses were excavated. One is the "House of Diana," so called from a small shrine with a figure of Diana found in it. It has, at the height of the second story, a balcony which runs the whole length of the two sides of the house which are towards the street. This balcony had fallen, but it has been put back in place. No other Roman house such as this still exists. The second house has a large hall about eight by seven metres with well-preserved mosaic pavement and, on the walls, paintings. There is a remarkable series of portraits, chiefly of aged, bearded men, presumably philosophers or poets. One represents a young, beardless man crowned with laurel and for this the name of Virgil has been suggested. An important inscription giving a chronology of the years 36, 37, and 38 A.D. was also brought to light. It contains the names of Roman magistrates, the important events, and the names of the magistrates of Ostia. In it are recorded the great fire in Rome between the Circus Maximus and the Aventine; the death of Antonia and of Drusilla; also the death of Tiberius at Misenum, March 16, 37, and his funeral ceremonies. His remains were carried to Rome on the shoulders of his men. Fragments of the same inscription for the years 19-21 and 91-92 were found at the beginning of the last century far from the place where the new fragment was discovered. (*Cronaca delle Belle Arti*, IV, 1917, p. 40.)

POPULONIA.—The Excavations of 1915.—In *Not. Scav.* XIV, 1917, pp. 69-93, A. MINTO gives an account of the excavations of 1915 at Populonia. Regard for the crops compelled a change of site from S. Cerbone (*Not. Scav.* 1908, pp. 199 ff.; *ibid.* 1914, p. 444), resulting in the discovery of a necropolis with tombs belonging to the third and second centuries before our era. In the tombs, some of which were Etrusco-Roman and others Italo-Etruscan, were found bronze objects (fibulae, bells, arms, and mirrors) and pottery.

ROME.—Discoveries in the Piazza Colonna.—In the rearrangement of the Piazza Colonna after the destruction of the Palazzo Piombino numerous ancient buildings were found, composing several *insulae*. In *Not. Scav.* XIV, 1917, pp. 9-26, E. GATTI and F. FORNARI describe these and give a plan. Among the objects found were a *tabula lusoria*, an inscribed lead pipe, a portrait head of a man in Greek marble, of the third century, and another of a child. Four-

teen new inscriptions are given one of which contains the name of a hitherto unknown *Curator Carthaginiis*, M. Pontius Eclectus Archelaus, and others previously found in the same neighborhood are republished.

Discoveries near the Via Po.—While engaged in leveling some ground near the intersection of the Via Po and the Via Gregorio Allegri, Rome, workmen brought to light some tombs dating from the first century A.D. They are adorned with fresco paintings and mosaics. There were also found remains of a large building connected with the tombs by a stairway of travertine. It had a portico, an atrium with mosaic pavement, and side rooms. A fragmentary relief representing a four-horse chariot rising from the sea also came to light. Marine animals assist in pushing it from behind, while two youths make it fast to the shore. Other fragments represent female figures. It is a notable piece of Hellenistic sculpture. (*Cronaca delle Belle Arti*, IV, 1917, pp. 62-63.)

An Underground Basilica.—At a distance of less than two kilometres from the Stazione di Termini on the railroad from Rome to Naples a sinking of the earth recently led to the discovery of a large underground basilica. It has three aisles separated by pillars with arches. The walls, vaults, pilasters, and apse are covered with reliefs in white stucco, some representing mythological scenes, others cult objects and ornamental patterns. A vestibule also adorned with stucco served as an entrance. Both rooms were paved with mosaic. The building, which is practically intact, will be made accessible to visitors. (*Cronaca delle Belle Arti*, IV, 1917, p. 41.)

Acquisitions of Vases by the Villa Giulia.—In *Mon. Ant.* XXIV, 1917, cols. 345-400 (27 pls.; 3 figs.), G. CULTRERA describes the vases which in the last few years have been added to the collection in the Villa Giulia. The greater part have come from the Museo Kircheriano, but others were withdrawn from the "Office of Exportation." There are eight Ionic, or "Ionizing," vases; ten black-figured, and ten red-figured Attic vases; one white lecythus; twelve South Italian vases; three Etruscan, and three Faliscan vases.

Discoveries in the Via Casilina.—On the Via Casilina, the ancient Labicana, at Vicolo dei Carbonari (località Marranella), about three kilometres beyond the Porta Maggiore, was found what seems to be the marble cover of a small sarcophagus or cinerary urn, representing the reclining figure of a young girl and apparently belonging to the second half of the second century. In the same place five fragmentary inscriptions were brought to light. (F. FORNARI, *Not. Scav.* XIV, 1917, pp. 94-99.)

A Republican Grave Monument.—In the course of the enlargement of the Via Santa Croce in Gerusalemme, at the corner of the Via Statilia, a sepulchral monument was discovered belonging to the end of the republic. The interior, however, had been remodelled at a later period. (F. FORNARI, *Not. Scav.* XIV, 1917, pp. 174-179.)

A Building of the Second Century.—In the Piazza S. Lorenzo in Lucina remains of a building of good construction in brick, belonging to the second century A.D., were unearthed. The building, which had several rooms and was apparently of some importance, lay along the Flaminian Way. Fragments of inscriptions were found, including the brick stamp *C.I.L.* XV, 155 and an unpublished one of the *figlina Faoriana*. (G. LUGLI, *Not. Scav.* XIV, 1917, pp. 94-96.)

ROSARNO.—Exploration of the Necropolis.—In *Not. Scav.* XIV, 1917,

pp. 37-67, P. ORSI (Cf. *Suppl. Not. Scav.* 1913, pp. 55 ff.) gives a detailed account of the contents of eighty-six tombs with a plan showing their distribution. The finds included lamps, small vases, mirrors, terra-cotta ornaments, and figurines, among which were representations of horses.

SANTA MARIA DI CAPUA VETERE.—A Marble Head.—In *Not. Scav.* XIV, 1917, pp. 33-36, A. LEVI describes a marble head of Roman workmanship found between Santa Maria di Capua Vetere and Caserta, at Ponte di San Prisco. The head, which was taken to the museum at Naples, belongs to the period of Hadrian, but has some archaistic features.

SIECI.—Remains of a Roman Bath.—At the seventeenth kilometre of the railroad from Florence to Arezzo, a man who was clearing the ground for a house uncovered the remains of a Roman bath, which seems to have been destroyed by fire. It was apparently on the road from Fiesole to Arretium. (E. GALLI, *Not. Scav.* XIV, 1917, pp. 3-8.)

SYRACUSE.—Recent Acquisitions of Coins.—During the years 1915 to 1917 the museum at Syracuse acquired 414 coins. Among them are signed coins of Euclides and Euenetus, and one of Pyrrhus which was probably struck at Locri; also an unpublished fraction of an obol of Catania; and a rare bronze coin of Agyrium. (*Cronaca delle Belle Arti*, IV, 1917, p. 63.)

FRANCE

LYONS.—Statuette of Jupiter.—In *R. Arch.*, fifth series, V, 1917, pp. 68-71 (pl.), HENRI LECHAT publishes a bronze statuette of a nude Jupiter holding a lance. The statuette was found at Lyons in 1914. The head is crowned with leaves, olive or laurel. The execution of the whole is excellent. A probable date is the first half of the second century A.D.

PARIS.—Recent Acquisitions of the Louvre.—In *C. R. Acad. Insc.* 1917, pp. 102-106 (fig.), A. HÉRON DE VILLEFOSSE announces that the Louvre has recently received from the estate of the Marquis de Vogüé several important antiquities. These include a marble head of Athena found many years ago in Aegina and published by Collignon in *Mon. Piot*, XIII, pp. 166-174. It dates from about 460 to 450 B.C. and is a good example of sculpture of the Aeginetan school. A second monument is an Attic grave stele perfectly preserved. A bearded man is seated with his feet on a footstool. His right hand rests on the left shoulder of a draped youth who stands before him and holds a bunch of grapes which a small dog tries to get. Before them a large loutrophoros of elegant shape stands upon a base, while a nude slave with strigil and aryballus awaits their pleasure. Above the relief is the inscription (published by Pittakis, *Ἐφ. Ἀρχ.* 1854, p. 1180), Ἀπολλόδωρος Ἀγαθοκλέους Σιδώνιος. The stele was found near the Dipylon Gate in 1834. Other acquisitions are a Himyaritic inscription which is a dedication to Talab; and a Phoenician inscription carved on a marble votive altar. The latter contains the names of several kings of Citium before the Ptolemaic conquest, those of Melekhiaton and his sons.

A Unique Coin of Prusias.—In *C. R. Acad. Insc.* 1917, pp. 106-107, E. BABELON comments on a unique coin recently acquired by the Cabinet des Médailles. It has on the obverse the head of Domitian and on the reverse Germania represented as a slave with her hands tied behind her back and a

Greek legend which is a translation of the Latin *Germania capta*. The coin was struck at Prusias in Bithynia.

SOISSONS.—Gallic Graves.—Between February and April, 1915, German troops east of Soissons excavated thirty-two Gallic graves of the early La Tène period, or about 500 B.C. Several vases of terra-cotta, and arm and neck rings of bronze were found, and in one grave three small iron spear heads. All of the finds were deposited in the Berlin museum. (C. SCHUCHHARDT, *Ber. Kunsts.* XXXVI, 1915, cols. 260-264; 2 figs.)

HOLLAND

NIMÈGUE.—A Stronghold of the Batavi.—Recent excavations on a hill 2 km. east of Nimègue have brought to light an ancient fort surrounded by a palisade. It was elliptical in shape, about 340 m. long and 240 m. wide with at least four entrances. Coins, potsherds, etc. show that it was established about 10 B.C. and destroyed by fire about the middle of the first century A.D. J. H. Holwerda has identified this as the *oppidum Batavorum* which Civilis burned in 70 A.D. Not far from it was a camp of the tenth legion. (F. CUMONT, *R. Ét. Anc.* XIX, 1917, p. 208.)

GERMANY

BERLIN.—Early Babylonian Sculptures.—The Berlin museum has recently acquired several important examples of early Babylonian art. (1) Among them is a small group of figures in the round of red limestone consisting of a man, 25 mm. high, standing beside a reclining ox, 27 mm. long (Fig. 3).



FIGURE 3.—BABYLONIAN LIMESTONE GROUP: BERLIN.

The man is bald-headed, has a prominent nose, is bare to the waist and bare-footed and wears a skirt of leaves. The group probably dates from the time of Entemena, and, with the exception of another similar group acquired at the same time, is the only example of its kind in Babylonian and Assyrian art. The second group is made of a hard, black stone, but the man has been broken off. (2) Another acquisition is a rude seated figure of a woman in basalt. It is 27 cm. high and 25 cm. wide. The face is carefully worked out and evidently a portrait. The hands and face are crudely indicated, but no attempt is made to represent the rest of the body correctly. This figure is said to have

come from Ur, and is probably earlier than the time of Naram-Sin. (3) A third important acquisition is an alabaster figure representing a woman fully draped, seated and holding a tablet on her knees. She has her hands folded across her breast. This dates from the time of Gudea, *ca.* 2500 B.C. (O. WEBER, *Ber. Kunsts.* XXXVI, 1915, cols. 183-194; 13 figs.)

RUSSIA

OLBIA.—A Painted Glass Bowl.—In *R. Arch.*, fifth series, V, 1917, pp. 310-316 (fig.), MORIN-JEAN contributes a somewhat detailed summary of a recent richly illustrated Russian monograph by M. Rostovtsev, in which a glass bowl discovered at Olbia in 1913 is described and discussed. The glass is opaque white, and the decoration is in white, yellow, green, blue, red, and brown. Birds, animals, foliage, a rosette, and bands or garlands form the decoration. Related to this bowl are the vase from Khamissa (Rothschild collection), the vase from Nîmes (Louvre), and a vase in the British Museum of unknown origin, as well as a fragment found at Kertch in 1910, which can be dated in the latter part of the first century B.C. The origin of these vases is Alexandrian. The same general style of decoration is found in mosaics of the first, second, and third centuries A.D. Other works are cited and discussed in connection with the glass bowl.

GREAT BRITAIN

LONDON.—Recent Acquisitions of Coins by the British Museum.—A considerable number of Greek coins acquired by the British Museum in 1914-1916 are described by G. F. HILL in *Num. Chron.* 1917, pp. 1-30 (3 pls.).

NORTHERN AFRICA

BULLA REGIA.—Excavations in 1916.—In 1916 excavations were carried on in the southwest corner of the city of Bulla Regia in a group of ruins near the church of the priest Alexander, but the identity of the building has not yet been made out. On the west side a finely built wall is still preserved to a height of four or five metres. Work was also carried on at the baths; and a villa containing wall-paintings and mosaics was partially cleared. (L. CARTON, *C. R. Acad. Insc.* 1917, pp. 149-154.)

CARTHAGE.—Recent Discoveries.—In *B. Soc. Ant. Fr.* 1916, pp. 275-278 (2 figs.), A. HÉRON DE VILLEFOSSE reports from Father Delattre the following discoveries from Carthage: (1) in the great basilica, where more than 5,000 fragments of inscriptions have been found, part of a marble slab which seems to have belonged to a gaming table; (2) part of a terra-cotta plaque illustrating the story of Jonah; (3) part of a Carthaginian stele originally containing a votive inscription to Tanit in Phoenician, which had been partially erased and a Latin epitaph written over it; (4) a small black slab of oval shape upon which appears a man with a rooster's head and serpent legs holding in one hand a whip and in the other a shield with an abraxas inscription.

THUBURBO MAJUS.—Excavations in 1916.—In *C. R. Acad. Insc.* 1917, pp. 66-77 (4 figs.), A. MERLIN reports upon his excavations at Thuburbo Majus in 1916. About 40 m. southeast of the *thermae aestivales* excavated in 1915 a

small sanctuary was brought to light. It was a tetrastyle temple upon a podium reached by nine steps. The stylobate paved with *opus sectile* measures 5.60 m. by 6.25 m. and is perfectly preserved. The temple was surrounded on three sides by a colonnade about three metres wide extending for some distance. It was closed on the outside by a wall and on the inside by sixteen columns, and had a mosaic pavement with geometric designs in black and white. Fragments of sculpture from a group consisting of a woman between sphinxes show that the sanctuary was that of a Romanized Baalit. Excavations at the *thermae hiemales* were also carried on. They were not so large as the *thermae aestivales*, but covered about 1600 square metres. A plan cannot yet be made, but the building was adorned with statues of Apollo, Venus, Silvanus, Bacchus, the Dioscuri, and a satyr; and with mosaics in color. Several difficult inscriptions were found, as were also a mask of Pan of terra-cotta, and three perfume vases decorated with figures of dogs pursuing rabbits. The excavations are being continued.

UNITED STATES

PHILADELPHIA.—Three Greek Vases.—In the *Museum Journal*, VIII, 1917, pp. 188–196 (5 figs.), S. B. L(UCE) comments on three Greek vases recently lent to the Museum of the University of Pennsylvania. One is an old Corinthian oenochoe with decoration consisting of three zones of animals. The second is a black-figured Attic panel amphora on one side of which is depicted a warrior in the act of mounting a four-horse chariot while three other armed men stand by; on the other side is a mounted warrior accompanied by two men on foot. The third vase is an Apulian bell crater.

A Greek Doll.—In the *Museum Journal* of the University of Pennsylvania, VIII, 1917, pp. 186–187 (fig.), S. B. L(UCE) calls attention to a Greek doll of terra-cotta 15 cm. high recently presented to the Museum. It is similar to one in Boston but smaller, and was purchased in Athens many years ago. The arms and legs were attached to the body by means of cords.

PROVIDENCE.—Graeco-Egyptian Portraits at the School of Design.—In the *Bulletin of the R. I. School of Design*, V, 1917, pp. 25–27 (3 figs.), L. E. Rowe publishes two recently acquired examples of Graeco-Egyptian portraiture of the second century of our era. One is a painting in wax encaustic, the other a plaster mask. Both represent women.

EARLY CHRISTIAN, BYZANTINE, MEDIAEVAL AND RENAISSANCE ART

GENERAL AND MISCELLANEOUS

SHELLAL.—Discovery of an Ancient Christian Church.—The *London Daily Telegraph*, of August 23, 1917, contained a lengthy description by W. T. MASSEY of the discovery of an ancient Christian church at Shellal between Beersheba and Khan Yunus, by the British force that was invading Palestine. A splendid mosaic pavement of 8,000 pieces was discovered intact, and an inscription stating "This temple with specious . . . was built by our most holy . . . and most pious George in the year 622 according to

. . . Gaza." At first the idea was entertained by the soldiers that they had discovered the tomb of the patron-saint of England. See also *Pal. Ex. Fund*, XLIX, 1917, p. 150.

ITALY

IMPORTANT GIFTS TO THE STATE.—Among the gifts to the Italian State in 1916-1917 is announced the acquisition, from Mario Menotti of Rome, of a superb Madonna with the Child by Bartolomeo Montagna, a St. Jerome in the Desert by Lorenzo Lotto, two small panels by Crivelli, Jesus bearing the Cross attributed to Paris Bordone, and The Education of Bacchus by Van Dyck. (*Boll. Arte*, XI, 1917, pp. 171-172.)

PROTECTION OF THE MONUMENTS.—A great quintuple number of



FIGURE 4.—PROTECTION OF FAÇADE OF SAN MARCO, VENICE.

Boll. Arte (XI, 1917, pp. 179-312; 146 figs.) with preface by C. Ricci is devoted to the report in catalogue form of the measures taken to protect the endangered artistic patrimony of Italy. Moveable objects are taken to places of safety. Fixed architectural and sculptural monuments are shielded by sand bags, and the roof necessary in case of exterior protection is covered with fire-proof material. Mosaics and other mural paintings left in place are further protected, especially against the violent movement of air occasioned by a neighboring explosion, by heavy veiling. Venice has required the most attention. St. Mark's is fortified with sand bags, both within and without (Figs. 4 and 5); the construction has been reinforced, the roof twice treated with silicate of soda, and a special fireboat detailed and motor pump provided in addition.

The Ducal Palace has been equally cared for. Over six thousand square metres of mural painting have been rolled up and taken away from there. Similar precautions at some fifteen other important buildings in the city are recorded. At Padua, the Arena chapel (Fig. 6), the Santo and Eremitani churches, and the Gattamelata monument have received special attention; and at Ravenna, the Orthodox Baptistery, San Vitale, (Fig. 7), and the Mausoleum of Galla Placidia. Throughout northern Italy, at Treviso, Cividale, Verona, Vicenza, Mantua, Milan, Pavia, Bergamo, Brescia, Bologna, Parma, etc. a vast amount of protective work has been accomplished; Florence and Ancona have come in for a liberal share; and something has been done at Loreto, Rome, Bari, Barletta, and Trani.

RESTORATIONS OF FRESCOES.—In *Cronaca delle belle Arti*, IV, 1917,

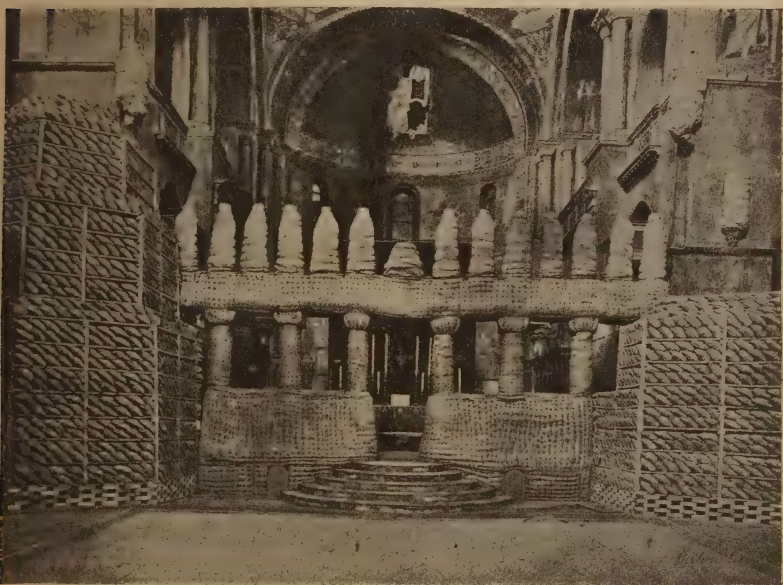


FIGURE 5.—PROTECTION OF INTERIOR OF SAN MARCO, VENICE.

pp. 9-10, T. V. PAPARI tells of his work in restoring, or, more precisely, preserving, the Correggio frescoes in the Duomo of Parma. Living in close contact with the frescoes for so long a time made possible a close study of Correggio's manner of fresco-painting, which is here described. *Ibid.* pp. 10-11, L. C. PRINCIPI writes on the repairing done on the paintings of Fra Angelico and Luca Signorelli in the chapel of S. Brizio in the Duomo of Orvieto. *Ibid.* pp. 11-13, D. FISCOLI describes the restoration of the mural paintings of Piero della Francesca in the choir of San Francesco in Arezzo, adding also an analysis of Piero's technique.

AQUILA.—A New Museum.—In the chapter house of the Cathedral of Aquila it has been decided to open a small museum in which the valuable silks and embroidered vestments and the precious metal work belonging to

the church may be displayed. The last group is briefly treated in *Rass. d'Arte*, XVI, 1916, pp. 135-144 (13 figs.), by P. PICCIRILLI. Most of the works of the local school, which was very active have been carried away; but there are examples by Nicola da Guardiagrele, whose exceptional processional cross, richly figured, signed, and dated 1434, and statue of S. Massimo remain in the treasure. Two Sienese artists, presumably brothers, Francesco and Bar-

tolomeo Nucci, are represented by three reliquaries, one signed. Further information concerning them is not forthcoming, but they are placed in the latter half of the fifteenth century. There is also a pax of the sixteenth century, possibly not even Italian. But three crucifixes are of local origin, one of the sixteenth, the other two of the seventeenth century.

AREZZO.—Some Majolica in the Museum.—A contribution to the history of the art of majolica is made by A. DEL VITA in *Rass. d'Arte*, XVI, 1916, pp. 107-

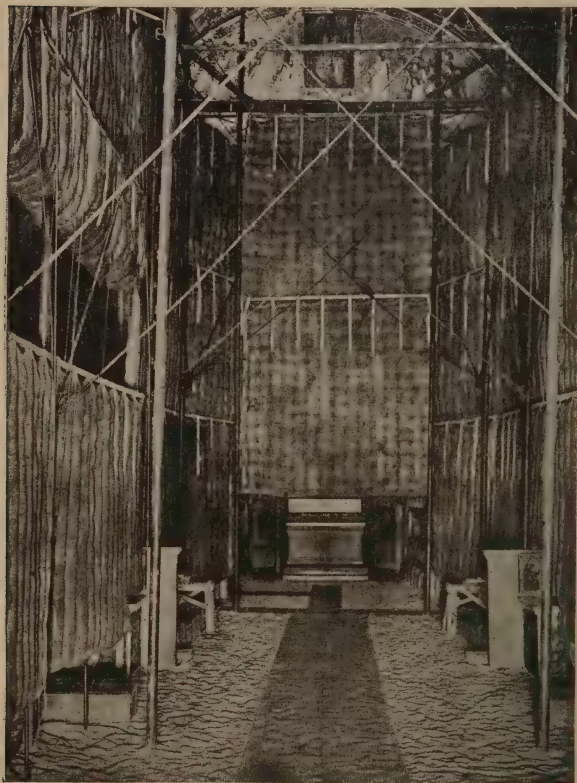


FIGURE 6.—PROTECTION OF GIOTTO'S FRESCOS IN THE ARENA CHAPEL, PADUA.

120' (12 figs.) in his discussion of some examples of the ware in the museum of Arezzo. A *faentino* dish on which is represented The School of Athens is attributed to Cristofano Scaletti. It shows close similarity to a plate in the British Museum representing The Battle of the Lapiths and Centaurs. Another dish, dated 1531, is assigned to the *eugubine* workshop, to a master closely related to Maestro Giorgio. A group of pieces, a vase and two plates, are by Deruta. They are characterized by fine design and unique use of blue and yellow on a white ground. The yellow is particularly fine, giving a beautiful

mother-of-pearl effect. Two dishes, both dated 1533, by Francesco Xanto Avelli are especially interesting. One, evidently a commercial piece, is much inferior to the other. The metallic lustre that Francesco Xanto uses in his decoration has been the subject of much dispute, it being contended by some that the secret of the technique was confined to Maestro Giorgio, and that consequently dishes by others that show this lustre must have been sent to Giorgio's workshop to have it applied. But it is here shown that Francesco Xanto's work in this particular differs essentially from Giorgio's. Two dishes based on the same design, one from the kiln of Castel Durante, the other by Niccolò da Urbino, illustrate the exchange of designs between the workshops of different cities.

Notes on Two Fourteenth Century Painters.—In *L'Arte*, XX, 1917, pp. 54-56, A. DEL VITA publishes documents of interest for the history of mediæval painting in Arezzo. The notice concern-

ing the two years' sojourn of Bartolomeo da Siena in Arezzo is important both for the material it offers for critical and documentary researches and for the new proof it gives of the influence of Sienese painting on the artists of the locality of Arezzo. The record of paintings in S. Maria della Pieve proves that two or more artists are responsible for the paintings attributed by Vasari to one painter, whom he calls Giovanni dal Ponte. Giovanni di Marco has already been recognized as one of these, and the present document shows Giovanni di Bono to be another.



FIGURE 7.—PROTECTION OF SAN VITALE, RAVENNA.

BOLOGNA.—The Museum of S. Stefano.—In *Cronaca delle belle Arti*, IV, 1917, pp. 33-34 (3 figs.), F. FILIPPINI writes on the collection of the recently opened museum annexed to the Basilica of S. Stefano. Here are shown to the public works that had been scattered in the labyrinth of churches or hidden in store houses. Paintings from the fourteenth to the seventeenth century are included in the collection. Among the artists represented are Simone, Lippo di Dalmasio, Vitale, and Tiarini. One of the most interesting works is composed of four panels with the story of S. Antonio the hermit, and is attributed to the school of Vitale. One room of the museum is devoted to sculpture.

A Fresco in the Collegio di Spagna.—An interesting fresco decorating one of the walls of the upper cloister of the Collegio di Spagna in Bologna is published by D. G. BELVEDERI in *Rass. d'Arte*, XVI, 1916, pp. 151-155 (5 figs.). The work is recognized at once as by an artist flourishing in Bologna in the first half of the sixteenth century, an artist who was much indebted to the school of Raphael. Indeed, it is found that the painting is a very close copy of Raphael's Holy Trinity in the Louvre. Contemporary records assign the work to Biagio Puppini, called Biagio delle Lamme. The work was done in 1524 during a restoration of the Collegio.

CITTADUCALE.—Monuments of the Fourteenth Century.—In *Boll. Arte*, XI, 1917, pp. 35-48 (21 figs.), A. MUÑOZ writes on the monuments of Cittaducale, which have hitherto gone unnoticed. Founded in 1309, the city erected its principal monuments in the fourteenth and fifteenth centuries. Much damage has been wrought by many earthquakes, but important parts of the city wall, churches, houses, and other monuments remain. To the fourteenth century belong the portico of the Palazzo Pubblico and the front of the church of S. Maria del Popolo, with its beautiful Gothic rose window. A rare reading desk also is preserved in this church. To the same epoch belongs the church of S. Giovanni Battista, parts of which still remain. The most praiseworthy monument of the city is the beautiful quattrocento portal of the church of S. Agostino. In 1471 was erected the church of S. Cecelia, the interesting portal of which remains.

CORNETO TARQUINIA.—A Panel by Filippo Lippi.—In *Boll. Arte*, XI, 1917, pp. 105-110 (pl.; 3 figs.), P. TOESCA publishes a small painting of a Madonna (Fig. 8) which he found in S. Maria in Valverde, a church under the mediaeval wall of Corneto Tarquinia. The panel, now housed in the Museo Nazionale Tarquiniense, bears the date 1437, but no signature. It is attributed, however, without the least hesitancy to Filippo Lippi, all its characteristics being in harmony with other work of Filippo's in this fruitful period of his activity. This newly discovered painting shows, even better than the Louvre Madonna, Filippo's power for strong modeling and use of light and shade, inspired by Masaccio.

CREMONA.—A New Work of Filippo Mazzola.—A triptych representing the Madonna between two saints in the Museo Ala Ponzone, Cremona, is discussed by M. SALMI in *Rass. d'Arte*, XVII, 1917, pp. 5-7 (fig.). The name of Galeazzo Campi has been associated with the painting. But the impossibility of such an ascription is proved by that artist's works in the same museum and in the church at Cremona. On the other hand, the very features that characterize the art of Filippo Mazzola of Parma, the cold, silvery colors, the minute care with which the forms are executed, and the sweet, quiet types are un-



FIGURE 8 —MADONNA BY FILIPPO LIPPI.

mistakable in this triptych. Comparison with other of Mazzola's works, of which the dates are known, places it approximately in the period between 1493 and 1500.

FERRARA.—A Donatello Terra-cotta.—A fragment of a decorated terra-cotta discovered during some work on the church of S. Stefano in Ferrara and now in the Museo di Schifanoia is published by C. RICCI in *L'Arte*, XX, 1917, pp. 41-44 (3 figs.). The subject evidently treats of the obsequies of the Madonna. Though it is only a sketch, the Donatellesque character of the work is perfectly evident. Aside from the general spirit and manner of execution, parallels for various figures and poses may be found in bas-reliefs by Donatello. Whether the terra-cotta sketch is by Donatello himself or by one of his followers is a difficult question. But its author must have been an artist of great intellect and of rare power for instilling life and passion into his work. In *Boll. Arte*, XI, 1917 (fig.), A. C. cites other analogies between this terra-cotta and Donatello's authentic works to strengthen the attribution to that master.

FLORENCE.—"Carita Romana" by Luini.—A painting in the Museo Stibbert, Florence, that merits rank among the better works of Luini is published by F. M. VALERI in *Rass. d'Arte*, XVI, 1916, pp. 204-205 (fig.). The subject, "Roman Charity," is an unusual one. The work belongs to the latest manner of Luini and shows Leonardesque influence. Indeed the face of the young woman seems to have been inspired by that of Leonardo's Gioconda.

Some Paintings in the Environs of Florence.—Paintings from churches in the environs of Florence are published by I. V. ELDER in *Rass. d'Arte*, XVI, 1916, pp. 179-186 (10 figs.) and pp. 257-264 (5 pls.; 3 figs.). The most important work in the church of San Martino a Terenzano is a triptych with the Madonna and Two Saints by Lorenzo di Niccolò Gerini. By the same artist are two other panels in this church, representing S. Clemente and Sta. Lucia. To about the third quarter of the trecento belongs a polyptych with half-length figures of the Madonna and Saints by an unknown painter of the school of Bernardo Daddi. Three saints in another panel are the work of the school of Bicci di Lorenzo. The tabernacle called *del Madonnone* contains a fresco of the Madonna and Saints which may be attributed to Lorenzo Pietro. In the church of S. Lorenzo a Vicchio di Rimaggio are the fragments of a fresco representing The Gate of Paradise, which has been attributed to the Sienese school, but is undoubtedly the work of an anonymous Florentine artist of the end of the fourteenth or beginning of the fifteenth century. A panel, the subject of which is the Marriage of St. Catherine, is in the same church. It is by a painter of the early fifteenth century, who shows close affinity with Bicci di Lorenzo. A characteristic painting of the Madonna and Angels by Bicci di Lorenzo is to be seen in the church of Santa Maria a Quarto. An unusually interesting triptych in the church of Rosano is shown to be the work of Giovanni di Marco. The central panel, representing the Annunciation, is clearly the original, a replica of which is the representation of the same subject in the triptych of the Badia di Pappiena, published by Count Gamba. The date, 1330, on the Rosano triptych, is valuable in the chronological arrangement of Giovanni's works. In the same church is an Annunciation which shows the characteristics of the school of Agnolo Gaddi. A triptych representing the Madonna and two Saints, in the church of Miransù is the work of Neri di

Bicci, executed while he yet felt the influence of his father, Bicci di Lorenzo. Two other triptychs, each with the Madonna as the central subject, one in the church of Magnale, the other in the church of Ristonchi, are by artists of distinctive characteristics, whose names are unknown. Finally, a triptych, likewise with the Madonna in the central panel, in the church of Posina, is recognized as the work of Mariotto di Nardo.

A Painting by Justus Sustermans.—The painting of a Group of Sportsmen in the Pitti, Florence, which has passed under the name of Giovanni da San Giovanni, is shown by O. H. GIGLIOLI in *L'Arte*, XX, 1917, pp. 52–53 (fig.), to belong to Justus Sustermans, the popular portrait painter in Florence in the first half of the seventeenth century. The technique and the character of the painting, particularly as regards the isolated treatment of the individual figures, is as unlike Giovanni da San Giovanni's manner as it is like Sustermans'. Documents are discovered which not only confirm the attribution to Sustermans, but which also make known the identity of the persons represented in the painting.

MESSINA.—**The Lanza-Cibo Mausoleum.**—In *Boll. Arte*, XI, 1917, pp. 28–32 (8 figs.), E. MAUCERI writes on a remarkable monument of Messina which was in the church of S. Francesco di Assisi before the fatal disaster. The remaining parts, which still give an idea of the splendid original, are in the Museo Nazionale, Messina. The monument is a bronze mausoleum, erected by the Sicilian, Giovanni Lanzi, to the memory of his consort, who was probably not a Sicilian, but belonged to the house of Cibo. The authorship of the work remains obscure, but some of the details point to the collaboration of a goldsmith with the sculptor. The date must be soon after the death of the young wife, *i.e.*, soon after 1618. The work is done in the early baroque manner which is still saturated with Renaissance elements.

MILAN.—**Documents on Fifteenth Century Artists.**—In *Rass. d'Arte* XVI, 1916, pp. 164–165, L. BELTRAMI presents new notary records bearing on various apprenticeships to painters dating from the last twenty years of the fifteenth century in Milan and also a new list of those connected with the problematic School of Painters there.

Two Paintings by Guidoccio Cozzarelli.—In *Rass. d'Arte*, XVI, 1916, p. 106 (2 figs.), G. C. describes two paintings of the Madonna and Child with Angels, one in the Brera Gallery, the other in a private collection in Milan. The one in the Brera has passed under the name of Giacomo Pacchiarotti. It bears no resemblance to this artist's work, but in all points shows the inspiration of the noted Sienese, Matteo di Giovanni, and is to be assigned to his pupil and imitator, Guidoccio Cozzarelli. To the same origin is attributed the Madonna in the Milanese private collection.

NAPLES.—**Restorations in the Church of S. Chiara.**—In *Boll. Arte*, XI, 1917, pp. 97–104 (8 figs.), C. GRADARA writes on the results accomplished by clearing the church of S. Chiara in Naples of its baroque additions, bringing to light the primitive Gothic monuments. The grand sepulchre of King Robert of Anjou, which had been almost completely hidden, is now in such a condition that its original merits can be much better studied. Of the frescoes that are brought to view, the most important is a badly mutilated fragment of a Pietà, which is probably the only surviving remnant of the work of Giotto in this church. In spite of its bad condition, its energy of expression is still discernable.

PISA.—**A Panel by Barnaba da Modena.**—In *Rass. d'Arte*, XVI, 1916, p. 203 (fig.), F. M. PERKINS publishes a small panel representing the Madonna in the Schiff collection, Pisa, which is important as a characteristic and signed work of Barnaba da Modena.

ROME.—**The New Museum of the Palazzo Venezia.**—In *Rass. d'Arte*, XVII, 1917, pp. 25–44 (26 figs.), G. BERNARDINI writes cursorily of the examples of two classes, Byzantine art and objects in bone and ivory, newly installed in the Palazzo Venezia, which has received the collection of the Castel Sant' Angelo and is to be developed much farther. Most of the Byzantine works are familiar; the bone and ivory objects date from the Renaissance down.

Some Pictures in the Store-Room of the Vatican Gallery.—Four paintings in the store-room of the Vatican are published by G. BERNARDINI in *Rass. d'Arte*, XVI, 1916, pp. 199–202 (4 figs.). A polyptych signed Nicolò da Vulturno belongs to the end of the fourteenth or beginning of the fifteenth century. It recalls the work of the Umbrio-Marchesque masters derived from the Florentine school. The Deposition from the Cross resembles the picture by Ludovico di Angolo in the Duomo of Perugia. Two fragments of a predella with scenes from the life of S. Justinus are the work of a mediocre follower of Botticelli.

An Unknown Work by Jacopo Sansovino.—Among other works by Jacopo Sansovino mentioned in Pietro Aretino's letter (dated 1537) to that sculptor and architect, is the monument in Santa Croce in Gerusalemme, in Rome, published by G. GIOVANNONI in *Boll. Arte*, XI, 1917, pp. 64–81 (pl.; 5 figs.). It is the sepulchre of the Cardinal Francesco Quignones. The reason for its having been overlooked hitherto by art students is explained by the alterations that were made in it in the sixteenth and seventeenth centuries, destroying the harmony of the original by the addition of baroque forms. It is not difficult, however, to determine the former appearance, which is a dignified Tuscan-Roman architectural scheme animated by Venetian coloring. In this chromatic effect, obtained by the use of colored marbles, lies the principal value of the work. The color is introduced not as an accessory thing, but as an organic element of the design. Aside from the design of the monument, probably the two statues of prophets are the only parts actually executed by Jacopo, the rest being left to assistants.

SABINA.—**S. Maria di Fianello.**—In *Rass. d'Arte*, XVI, 1916, pp. 281–288 (12 figs.), A. CALZA gives photographs, drawings, and plans, illustrating the ruined church of S. Maria di Fianello in Sabina. It is supposed to be on the site of an old Flavian villa and its foundation is thought to antedate the fifth century. The remains show the use of pagan materials, or perhaps the adjustment to walls still standing. The seventh century church had two aisles, like other churches in this region, the one with the apse at the end, the other without special termination and narrower. The church was monastic and at one time an important mother church; much of its history is obscure.

SASSUOLA.—**Frescoes in the Pleasure House of the Esti.**—The fresco decoration of the pleasure house of the Esti at Sassuola is discussed by A. VENTURI in *L'Arte*, XX, 1917, pp. 65–98 (23 figs.). The vast construction was begun in 1634 and the decorating in 1641. Numerous contemporary writings, both of a documentary and literary character, throw light upon the question of the artists employed in the fresco work and upon the

order in which the various parts were done. The three principal artists concerned with the decoration were Agostino Mitelli, Michelangiolo Colonna, and Giovanni Boulanger. The first two determined the character of the whole work, for Boulanger imitated them in the basic features of his share of the decorations. Mitelli and Colonna were perfect masters of illusionistic painting. They have created in the frescoes of these rooms vast architectural structures. Elaborately decorated walls, pierced by openings which give a view of courts beyond, columns supporting balconies peopled by musicians appear as if actually constructed in three dimensions. Boulanger was not so successful in this style of painting as Mitelli and Colonna; he failed to reproduce their depth of perspective. He was at his best in rich ornamental treatment.

SIENA.—A Little Known Painting of Piero di Cosimo.—In *Rass. d'Arte*, XVI, 1916, p. 280 (pl.), I. V. ELDER describes an Adoration of the Child in the church of S. Galgano in Siena. The painting, which is in a good state of preservation, has been assigned to various artists, among them Pinturicchio, Ghirlandajo, Lorenzo di Credi, and a Flemish master. But the ascription of Berenson and Perkins to Piero di Cosimo is the most plausible.

UMBRIA AND THE ARETINO.—The Earthquake of April 26, 1917.—In *Cronaca delle belle Arti*, XI, 1917, pp. 35-39 (2 figs.), a report is given by the Superintendencies of Perugia and of Florence of the damage done to the monuments of Umbria and the Aretino by the earthquake of April 26, 1917. Churches and other buildings important in the history of art during the fifteenth, sixteenth, and seventeenth centuries, with their paintings and sculptures, suffered damage, in some cases of a very serious nature.

URBINO.—The Growth of the Galleria Nazionale of the Marches in 1915-16.—In *Cronaca delle belle Arti*, IV, 1917, pp. 17-23 (3 figs.), L. SERRA writes on the acquisitions made in the past two years by the Galleria Nazionale of the Marches. Besides interesting examples of the minor arts, the gallery has acquired some important paintings, particularly from the Cathedral and the Church of S. Spirito in Urbino. Among these are a splendid Flagellation by Piero della Francesca, which is the finest gem in the gallery, SS. Vescovi Tommaso and Martino by Timoteo Vite, San Sebastiano by an imitator of Giovanni Santi, and The Crucifixion and Pentecost by Luca Signorelli.

SPAIN

BURGOS.—Discovery of Sepulchral Statues.—In *Boletín de la Sociedad Española de Excursiones*, XXV, 1917, pp. 7-16, 106-113 (5 pls.), A VEGUE Y GOLDONI reports the discovery of three mortuary statues (Fig. 9) of the early fourteenth century in the Monasterio of the Palacios de Benaver, Burgos. They represent the founders: D. Garci Fernández Manrique, his wife Da. Teresa de Zuniga, and son D. Pedro Fernández Manrique. They are carved in wood, polychrome, and above life size. In color and technique the three are comparable to the famous Santiago with the arms of the Kings of Castille near which they have been deposited in Las Huelgas de Burgos. But the Santiago is of earlier date, 1228. In pose and conception, on the other hand, they fit in with a large group of Spanish sepulchral statues in wood and stone that run in an unbroken series from the twelfth to the sixteenth century.

LEON.—San Isodoro.—In *Boletín de la Sociedad Española de Excursiones*, XXV, 1917, pp. 81-98 (4 pls.; 2 figs.), J. E. DIAZ-JUMÉNEZ presents the re-

sults of extensive investigations at San Isodoro de Leon (now Real Colegiata). Four building periods are distinguished. The most ancient construction was



FIGURE 9.—SEPULCHRAL STATUES, BURGOS.

dedicated to San Pelayo who at a later date gave place to St. John Baptist. An important rebuilding was that by the royal pair Fernando I and Sancha, recorded in 1063. Then Urraca, Queen of Zamorra, records the enlargement of the work of her father, and a final rebuilding was carried out by Pedro de Dios under the Emperor Alfonso VII.

MADRID.—
A Picture by Pereda.—In *Boletín de la*

Sociedad Española de Excursiones, XXV, 1917, pp. 22-24 (2 pls.), J. SINUÉS Y URBIDA publishes a painting, Sto. Domingo in Soriano, in the collection of the Marquis of Cerralbo (Fig. 10) along with two drawings for the same in the Biblioteca Nacional. The picture shows the work of Antonio Pereda in his forties, 1652-1656.

Convent of the Incarnation.—In *Boletín de la Sociedad Española de Excursiones*, XXV, 1917, pp. 121-134 (pl.), E. TORMO gives an account of a visit to the inaccessible Convent of the Incarnation, one of the three most important at Madrid, and lists briefly the many valuable pictures, for the most part portraits of historical significance, there concealed.

The Academy San Fernando.—In *Les Arts*, No. 157, pp. 3-11 (4 pls.; 5 figs.) and No. 158, 1917, pp. 1-8 (4 pls.; 4 figs.), P. LAFOND publishes a number of important paintings in the Academy of San Fernando in Madrid. Although the collection of the academy is of great excellence, it is little known. Aside from later examples, it includes important works by Zurbaran, Rizi, Correno, Ribera, Murillo, and others of almost equal importance.

OVIEDO.—Investigations at San Miguel de Linio.—In *Boletín de la Sociedad Española de Excursiones*, XXV, 1917, pp. 25-31 (3 figs.), V. LAMPEREZ



FIGURE 10.—S. DOMINGO EN SORIANO: A. PEREDA.

Y ROMEA gives notes on the latest results of excavations at the church of San Miguel de Linio, Oviedo, and furnishes corrections to the previously published ground plans.

FRANCE

PARIS.—The Collection of Barthelémy Rey.—In *Les Arts*, No. 160, 1917, pp. 12-19 (12 figs.), A. ALEXANDRE gives a general description, illustrated by a few examples, of the rich collection of sculptures of Barthelémy Rey. The collection, incomparable in the field it represents, comprises more than 600 pieces, dating from the eleventh to the sixteenth century. The subjects are confined almost wholly to the field of religion; but within that field there is the greatest diversity. Rare opportunity is given by this large number of

wisely selected works for the comparison of the plastic art of the different countries in these centuries and for an appreciation of its worth. The fact that the collector has taken care, as far as possible, to assemble only sculptures that retain their original polychrome coloring adds much interest to the collection and makes the determination of the schools much less difficult in many cases than it would otherwise be.

GERMANY

BERLIN.—A Head by Pellegrino da San Daniele in the Print Cabinet.—The Berlin attribution of the study of a head in the print cabinet to Signorelli is rejected by B. BERENSON in *Rass. d'Arte*, XVI, 1916, pp. 275–279 (4 figs.), and the name of Pellegrino da San Daniele is substituted. The study not only served as a cartoon for the fresco of the prophet Isaiah by Pellegrino in the church of S. Antonio at S. Daniele, but it shows characteristics similar to those of works by Pellegrino, and wholly opposed to the characteristics of Signorelli's works. The head is lifeless, lacking both the powerful modeling and the vital character of the work of Signorelli.

AUSTRIA-HUNGARY

AQUILEA.—The Basilica.—The Basilica of Aquilea, a city to which new interest is attached by the war, is described by G. FAURE in *Les Arts*, No. 158, 1917, pp. 20–24 (pl.; 8 figs.). Of the original basilica, erected by Bishop Theodore about 320, there remains only the mosaic decoration. The iconography expresses the triumph of Christianity, with remnants of pagan elements. A Romanesque church was raised on the old foundation early in the eleventh century, and about 1380 a reconstruction with Gothic features was carried out. The most interesting possessions of the church today are the magnificent frescoes of the crypt, more important and more precious than any in northern Italy, especially if, as it seems, they belong to the twelfth century. In them is seen predicted the art of Cimabue and the primitive Sieneese masters.

GREAT BRITAIN

BATH.—A Picture by Hugo van der Goes.—In *Burl. Mag.* XXXI, 1917, p. 45 (pl.), M. CONWAY publishes an Adoration of the Magi in the Victoria Art Gallery at Bath, which bears the characteristic marks of Hugo Van der Goes, but is believed to be the work of an approximately contemporary copyist. The authorship of the design is not doubtful, and parallels for individual figures are found in other works by Hugo. The picture at Bath is one of five paintings on this subject (the Adoration of the Magi), by Hugo and represents an interesting intermediate stage in his development.

LONDON.—An Undescribed Panel by Rembrandt.—A small panel by Rembrandt recently acquired by the National Gallery is described by C. J. HOLMES in *Burl. Mag.* XXXI, 1917, pp. 171–172 (pl.). The subject is The Philosopher. The painting is especially important to the National Gallery because it shows a phase of Rembrandt's art hitherto unrepresented in that collection; it is a fine example of his early experiments in composition. A study of its relationship to signed paintings by the master points to the latter part of 1632 as the most probable date for it.

UNITED STATES

CAMBRIDGE.—Acquisitions of the Fogg Museum.—The Fogg Art Museum of Harvard University has acquired the following works of art:—A Sienese painting, *Christ in Limbo*, by Sassetta; a cassone panel, *Judgment of Paris*, by the so-called "Paris Master"; a fifteenth century Spanish *Annunciation* attributed to Juan de Burgos; "The Building of the Temple" by Francesco Pesellino; the central panel of an altarpiece by Spinello Aretino, the right wing of which also belongs to the Museum; a fourteenth century painting of the Sienese School, representing on one side the *Deposition* and on the other side, "Woman, behold thy son!"; a *Nativity* attributed to Pietro Lorenzetti; a *Madonna and Child* and two *Saints* of the School of Ghirlandajo; a *Madonna and Child*, attributed to Jacobello del Fiore; a landscape in oil by Jan van Goyen; "Youth saluting a King," School of Cossa, fifteenth century; pieces of Chinese embroidery, and coins. To the collection of Japanese art have been added 203 prints, two important paintings, and five screens. A number of important acquisitions have been made in the Print Department, including sixteenth century Italian and German engravings. The Museum has also received for periods ranging from two weeks to six months loans of well-known works of art from leading private collections, all of the first importance, by the following masters: Roger van der Weyden, Josse van Cleef, Hans Memling, Mabuse, Jean Prevost, Dirck Bouts, Colijn de Coter, Isenbrandt, Master of Hooghstraaten, Joachim Patinir, Antonio Moro, Rembrandt, Franz Hals, Nicholas Maes, Rubens, Holbein, Cranach, Tintoretto, Piero della Francesca, Filippo Lippi, Girolamo da Santa Croce, Gentile da Fabriano, Matteo da Siena, Piero di Cosimo, el Greco, Francisco Zurbaran, Velasquez, and Ferdinand Bol.

MINNEAPOLIS.—Two Italian Cassoni.—Two Italian cassoni in the possession of the Minneapolis Institute of Arts are published by J. BRECK in *Art in America*, V, 1917, pp. 288–290 (2 figs.). The earlier of these, a Florentine work, is one of the few surviving examples of well-preserved cassoni of the fifteenth century. The lid, ends, and back are decorated with scroll, wreath, and shield designs painted in tempera. But the principal decoration is that on the front, a low-relief modeling in stucco, gilded and elaborately tooled. The subject of the central field is the four cardinal virtues, represented by four female figures with the usual attributes. At the left are two fighting monsters and at the right a centaur carrying off a woman. Medusa heads decorate the two central feet supporting the chest. Neither the original owner of the chest nor the artist has been identified. But the expressive and delicate treatment is clearly the work of a sculptor of marked ability. The second cassone is, through its beauty of proportions, refinement of design, and skilful carving, one of the most attractive examples of Italian furniture of the High Renaissance. The material is a beautiful walnut, and the decoration consists of carved formal ornament, of masks, and of escutcheons to which ribbons are attached. From the armorial bearings of the decorations it is possible to identify the cassone as one made in 1514 for a marriage between two Sienese families, the Piccolomini and the della Golia.

Print Department of the Institute.—In the *Print Collector's Quarterly*, VII, 1917, pp. 288–298 (5 figs.), M. C. LEHR gives a running account of the Print Department of the Minneapolis Institute of Arts.

NEW YORK.—An Annunciation by Masolino da Panicale.—In *Rass. d'Arte*, XVI, 1916, p. 206 (fig.), the Editor publishes a reproduction of the Annunciation recently added to the Goldman collection of New York. It has been attributed by Berenson to Masolino, and its likeness to other works by this master is sufficiently clear to make unnecessary any argument in justification of the attribution. The approximate date is 1423. See *A.J.A.* XXI, 1917, p. 230.

Additions to the Print Department of the Metropolitan Museum.—In *B. Metr. Mus.* XII, 1917, pp. 131–133, 174–176, 232–233, 249–250, W. M. IVINS records recent additions to the newly established Print Department of the Metropolitan Museum. Among the etchings are the portrait of the Emperor Charles V and his brother Ferdinand by the early sixteenth century Augsburg etcher CB, and Reynier Noom's view of the Regeliers Poort at Amsterdam; among the books, the earliest known book on the subject of etching, anonymously composed and printed first at Nuremberg in 1531, the *Sphaera Mundi* of 1485 printed by Erhard Ratdolt of Augsburg, Verdisotto's *Cento Favole Morali* of 1577, a *Legendario di Sancti* of 1514; among woodcuts, Hans Burgkmair's Death and the Lovers of 1510, Lucas Cranach's St. Christopher; and among engravings, a large number from Wilton House.

A Perugia Towel.—In *B. Metr. Mus.* XII, 1917, pp. 154–155 (fig.), F. M. publishes a blue and white weave of Perugian type of the fifteenth century. It bears as ornament the familiar griffins, dragons, and other animals; curious figures of men and devils; floral designs; etc. A similar design is in the collection of Mariano Rocchi, and a third figures in Ghirlandajo's Last Supper at San Marco.

French Stained Glass.—In *B. Metr. Mus.* XII, 1917, pp. 173–174 (fig.), W. F. STOHLMAN describes four quatrefoils of stained glass from a French cathedral. The pieces date from about 1300 and have as themes the Enthroned Virgin, the Chiefs of the Apostles, the Coronation of the Virgin, and the Paschal Lamb.

WORCESTER.—Acquisitions of the Worcester Art Museum.—Recent additions to the Worcester Art Museum published in the *Bulletin*, VIII, 1917, pp. 25–34 (6 figs.) are two paintings, a Madonna and Child with an Angel by Aelbert Bouts, a Madonna and Child with St. John by Antoniazio Romano, and three pieces of sculpture in marble, a Madonna and Child of the fifteenth century Lombard-Venetian school, a St. Dominic by Urbano da Cortona, and a Madonna and Child by Francesco di Simone.

ABBREVIATIONS

Abh.: Abhandlungen. *Allg. Ztg.*: Münchener Allgemeine Zeitung. *All. Or.*: Der alte Orient. *Am. Anthr.*: American Anthropologist. *Am. Archit.*: American Architect. *A.J.A.*: American Journal of Archaeology. *A.J. Num.*: American Journal of Numismatics. *A.J. Sem. Lang.*: American Journal of Semitic Languages and Literature. *Ami d. Mon.*: Ami des Monuments. *Ant. Denk.*: Antike Denkmäler. *Ann. Arch. Anth.*: Annals of Archaeology and Anthropology. *Ann. Scuol. It. At.*: Annuario della r. Scuola Archeologica di Atene e delle Missioni Italiane in Oriente. *Arch. Anz.*: Archäologischer Anzeiger. *'Αρχ.* *'Εφ.*: *'Αρχαιολογική 'Εφημερίς*. *Arch. Rec.*: Architectural Record. *Arch. Rel.*: Archiv für Religionswissenschaft. *Arch. Miss.*: Archives de Missions Scientifiques et Littéraires. *Arch. Stor. Art.*: Archivio Storico dell' Arte. *Athen.*: Athenaeum (of London). *Ath. Mitt.*: Mitteilungen d. k. d. Archaeol. Instituts, Athen. Abt.

Beitr. Assyriol.: Beiträge zur Assyriologie. *Ber. Kunsts.*: Amtliche Berichte aus den Königlichen Kunstsammlungen. *Berl. Akad.*: Preussische Akademie der Wissenschaften zu Berlin. *Berl. Phil. W.*: Berliner Philologische Wochenschrift. *Bibl. Stud.*: Biblische Studien. *Bibl. World*: The Biblical World. *B. Ac. Hist.*: Boletín de la real Academia de la Historia. *B. Soc. Esp.*: Boletín de la Sociedad Española de Excursiones. *Boll. Arte.*: Bollettino d'Arte. *Boll. Num.*: Bollettino Italiano di Numismatica. *Bonn. Jb.*: Bonner Jahrbücher: Jahrbücher des Vereins von Altertumsfreunden im Rheinlande. *B.S.A.*: Annual of the British School at Athens. *B.S.R.*: Papers of the British School at Rome. *B. Arch. C. T.*: Bulletin Archéologique du Comité des Travaux hist. et scient. *B. Arch. M.*: Bulletin Archéol. du Ministère. *B.C.H.*: Bulletin de Correspondance Hellénique. *B. Inst. Ég.*: Bulletin de l'Institut Égyptien (Cairo). *B. Metr. Mus.*: Bulletin of the Metropolitan Museum of Art, New York. *B. Mon.*: Bulletin Monumental. *B. Mus. Brux.*: Bulletin des Musées Royaux des arts décoratifs et industriels à Bruxelles. *B. Mus. F. A.*: Museum of Fine Arts Bulletin, Boston. *B. Num.*: Bulletin de Numismatique. *B. Soc. Anth.*: Bulletin de la Société d'Anthropologie de Paris. *B. Com. Rom.*: Bollettino d. Commissione Archeologica Comunale di Roma. *B. Arch. Crist.*: Bollettino di Archeologia Cristiana. *B. Pal. It.*: Bollettino di Paleontologia Italiana. *Burl. Mag.*: Burlington Magazine. *B. Soc. Ant. Fr.*: Bulletin de la Société des Antiquaires de France. *Byz. Z.*: Byzantinische Zeitschrift.

Chron. Arts.: Chronique des Arts. *Cl. Phil.*: Classical Philology. *Cl. R.*: Classical Review. *C. R. Acad. Insc.*: Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres. *C.I.A.*: Corpus Inscriptionum Atticarum. *C.I.G.*: Corpus Inscriptionum Graecarum. *C.I.L.*: Corpus Inscriptionum Latinarum. *C.I.S.*: Corpus Inscriptionum Semiticarum. *Cron. B. A.*: Cronaca delle Belle Arti.

Eph. Ep.: Ephemeris Epigraphica. *Eph. Sem. Ep.*: Ephemeris für Semitische Epigraphik. *Exp. Times*: The Expository Times.

Gaz. B.-A.: Gazette des Beaux-Arts. *G.D.I.*: Sammlung der griechischen Dialekt-Inschriften.

I.G.: Inscriptiones Graecae (for contents and numbering of volumes, cf. *A.J.A.* IX, 1905, pp. 96-97). *I.G.A.*: Inscriptiones Graecae Antiquissimae, ed. Roehl. *I.G. Arg.*: Inscriptiones Graecae Argolidis. *I.G. Ins.*: Inscriptiones Graecarum Insularum. *I.G. Sept.*: Inscriptiones Graecae Septentrionalis. *I.G. Sic. It.*: Inscriptiones Graecae Siciliae et Italiae.

Jb. Arch. I.: Jahrbuch d. k. d. Archäol. Instituts. *Jb. Kl. Alt.*: Neue Jahrbücher für das klassische Altertum, Geschichte und deutsche Litteratur und für Pädagogik. *Jb. Kunsth. Samm.*: Jahrbuch der Kunsthistorischen Sammlungen des allerhöchsten Kaiserhauses. *Jb. Phil. Päd.*: Neue Jahrbücher für Philologie und Pädagogik (Fleckeisen's Jahrbücher). *Jb. Preuss. Kunsts.*: Jahrbuch d. k. Preuss. Kunstsammlungen. *Jh. Oest. Arch. I.*: Jahreshefte des oesterreichischen Archäologischen Instituts. *J. Asiat.*: Journal Asiatique. *J.A.O.S.*: Journal of the American Oriental Society. *J. B. Archaeol.*: Journal of the British Archaeological Association. *J. B. Archit.*: Journal of the Royal Institute of British Architects. *J. Bibl. Lit.*: Journal of Biblical Literature. *J. E. A.*: Journal of Egyptian Archaeology. *J.H.S.*: Journal of Hellenic Studies. *J. Int. Arch. Num.*: *Διέθνῃς 'Εφημερίς τῆς*

νομισματικῆς ἀρχαιολογίας, Journal international d'archéologie numismatique (Athens). *J.R.S.*: Journal of Roman Studies.

Kb. Gesamtver.: Korrespondenzblatt des Gesamtvereins der deutschen Geschichts- und Altertumsvereine. *Kunstchr.*: Kunstchronik.

Mb. Num. Ges. Wien.: Monatsblatt der Numismatischen Gesellschaft in Wien. *Mh. f. Kunstw.*: Monatshefte für Kunstwissenschaft. *Mél. Arch. Hist.*: Mélanges d'Archéologie et d'Histoire (of French School in Rome). *Mél. Fac. Or.*: Mélanges de la Faculté Orientale, Beirut. *M. Inst. Gen.*: Mémoires de l'Institut Genevois. *M. Soc. Ant. Fr.*: Mémoires de la Société des Antiquaires de France. *M. Acc. Modena*: Memorie della Regia Accademia di scienze, lettere ed arti in Modena. *Mitt. Anth. Ges.*: Mitteilungen der anthropologischen Gesellschaft in Wien. *Mitt. C.-Comm.*: Mitteilungen der königlich-kaiserlichen Central-Commission für Erforschung und Erhaltung der Kunst- und historischen Denkmale. *Mitt. Or. Ges.*: Mitteilungen der deutschen Orient-Gesellschaft. *Mitt. Pal. V.*: Mitteilungen und Nachrichten des deutschen Palästina Vereins. *Mitt. Nassau*: Mitteilungen des Vereins für nassauische Altertumskunde und Geschichtsforschung. *Mitt. Vorderas. Ges.*: Mitteilungen der vorderasiatischen Gesellschaft. *Mon. Ant.*: Monumenti Antichi (of Acad. d. Lincei). *Mon. Piot*: Monuments et Mémoires pub. par l'Acad. des Inscriptions, etc. (Fondation Piot). *Mün. Akad.*: Königlich Bayerische Akademie der Wissenschaften, München. *Mün. Jb. Bild. K.*: Münchner Jahrbuch der bildenden Kunst. *Mus. J.*: The Museum Journal of the University of Pennsylvania.

N. D. Alt.: Nachrichten über deutsche Altertumskunde. *Not. Scav.*: Notizie degli Scavi di Antichità. *Num. Chron.*: Numismatic Chronicle. *Num. Z.*: Numismatische Zeitschrift. *N. Arch. Ven.*: Nuovo Archivio Veneto. *N. Bull. Arch. Crist.*: Nuovo Bullettino di Archeologia cristiana.

Or. Lit.: Orientalistische Literaturzeitung. *Or. Lux.*: Ex Oriente Lux.

Pal. Ex. Fund.: Quarterly Statement of the Palestine Exploration Fund. *Πρακτικά: Πρακτικά τῆς ἐν Ἀθῆναις ἀρχαιολογικῆς ἐταιρείας. Proc. Soc. Ant.*: Proceedings of the Society of Antiquaries.

Rass. d'Arte: Rassegna d'Arte. *R. Tr. Eg. Assy.*: Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes. *Rend. Acc. Lincei*: Rendiconti d. r. Accademia dei Lincei. *Rep. f. K.*: Repertorium für Kunstwissenschaft. *R. Assoc. Barc.*: Revista de la Asociacion artistico-arqueologica Barcelonesa. *R. Arch. Bibl. Mus.*: Revista di Archivos Bibliotecas, y Museos. *R. Arch.*: Revue Archéologique. *R. Art. Anc. Mod.*: Revue de l'Art ancien et moderne. *R. Art. Chrét.*: Revue de l'Art Chrétien. *R. Belge Num.*: Revue Belge de Numismatique. *R. Bibl.*: Revue Biblique Internationale. *R. Ép.*: Revue Épigraphique. *R. Ét. Anc.*: Revue des Études Anciennes. *R. Ét. Gr.*: Revue des Études Grecques. *R. Ét. J.*: Revue des Études Juives. *R. Hist. Rel.*: Revue de l'Histoire des Religions. *R. Num.*: Revue Numismatique. *R. Or. Lat.*: Revue de l'Orient Latin. *R. Sém.*: Revue Sémitique. *R. Suisse Num.*: Revue Suisse de Numismatique. *Rh. Mus.*: Rheinisches Museum für Philologie, Neue Folge. *R. Abruzz.*: Rivista Abruzzesa di Scienze, Lettere ed Arte. *R. Ital. Num.*: Rivista Italiana Numismatica. *R. Stor. Ant.*: Rivista di Storia Antica. *R. Stor. Calabr.*: Rivista Storica Calabrese. *R. Stor. Ital.*: Rivista Storica Italiana. *Röm.-Germ. Forsch.*: Bericht über die Fortschritte der Römisch-Germanischen Forschung. *Röm.-Germ. Kb.*: Römisch-Germanisches Korrespondenzblatt. *Röm. Mitt.*: Mitteilungen d. k. d. Archäol. Instituts, Röm. Abt. *Röm. Quart.*: Römische Quartalschrift für christliche Altertumskunde und für Kirchengeschichte.

Sächs. Ges.: Sächsische Gesellschaft (Leipzig). *Sitzb.*: Sitzungsberichte. *S. Bibl. Arch.*: Society of Biblical Archaeology, Proceedings.

W. kl. Phil.: Wochenschrift für klassische Philologie.

Z. D. Pal. V.: Zeitschrift des Deutschen Palästina Vereins. *Z. Aeg. Sp. Alt.*: Zeitschrift für Aegyptische Sprache und Altertumskunde. *Z. Alttest. Wiss.*: Zeitschrift für alttestamentliche Wissenschaft. *Z. Assy.*: Zeitschrift für Assyriologie. *Z. Bild. K.*: Zeitschrift für Bildende Kunst. *Z. Ethn.*: Zeitschrift für Ethnologie. *Z. Morgenl.*: Wiener Zeitschrift für die Kunde des Morgenlands. *Z. Morgenl. Ges.*: Zeitschrift der deutschen Morgenländischen Gesellschaft. *Z. Mün. Alt.*: Zeitschrift des Münchener Alterthumsvereins. *Z. Num.*: Zeitschrift für Numismatik.



A. RELIEF IN ROME: FRONT.



B. RELIEF IN BOSTON: FRONT.



A



B

RELIEF IN ROME: LEFT (A) AND RIGHT (B) WINGS.



C



D

RELIEF IN BOSTON: LEFT (C) AND RIGHT (D) WINGS.

THE LUDOVISI RELIEF AND ITS COMPANION PIECE IN BOSTON

[PLATES IV-V]

FEW of the remains of ancient Greek sculpture which have come to light in comparatively recent times are more widely known and more genuinely admired than the reliefs decorating the so-called Ludovisi Throne. Few also have furnished such difficult problems to archaeologists as regards the interpretation of their subjects and the explanation of their style. Though some things about the work which were at first obscure have been cleared up, it still remains, what it seemed to Visconti when he first published it in 1887, "un monumento singolarissimo non meno per la forma, che per le rappresentanze e per lo stile."¹ The companion piece, acquired ten years ago by the Museum of Fine Arts, Boston, threw some new light on these problems, but added others of equal difficulty. It is true that Studniczka in his publication of the Boston relief has proposed definite answers to all three of the questions which puzzled Visconti.² But that these have not met with universal acceptance is shown by the articles of Kjellberg, Gardner and Eisler which have appeared since. Studniczka's treatise, covering 142 pages of the *Jahrbuch*, and enriched with 90 text illustrations and 500 footnotes, is a veritable mine of archaeological lore. In his search for illustrative material he seems to have left hardly a stone unturned, so that there is little hope of finding new evidence which might throw light on the problems. It is perhaps possible, however, to present the evidence with a change of emphasis and from a different standpoint, and thus to arrive at a somewhat different conclusion. In the following pages I wish to set forth the results of such a new shaking of the kaleidoscope. I shall deal especially with the third problem—that of the place to be assigned to the reliefs in the history of Greek sculpture. But since no detailed discussion

¹ *B. Com. Rom.* 1887, p. 267.

² *Jb. Arch. I.* XXVI, 1911, pp. 50-192.

of them has yet been published in English, and since a study of the manner in which the artist expressed his ideas may be facilitated by some consideration of the ideas themselves, it seems advisable, by way of introduction, to review briefly the present state of the first two problems.

I

THE FORM AND USE OF THE MONUMENTS

The monument in Boston is carved from a single block of marble, hollowed out in such a way as to form a front with a gabled top, and two shorter wings set at right angles to it, with their upper edges continuing approximately the slope of the gable. The left wing is now considerably narrower than the right; and this was also originally the case, except at the bottom where it probably corresponded in width with the other wing. The outer faces of the front and wings are decorated with sculpture in moderately low relief. The top, bottom, and end surfaces are smoothed; the inner faces are roughly tooled. This general description applies equally well to the monument in Rome, except that in the latter both wings are of the same width. But the two marbles differ slightly in all their dimensions, as may be seen in the following table:

	<i>Boston</i>	<i>Rome</i>	<i>Variation</i>
Width of front at bottom, outside.	1.61 m.	1.42 m.	+0.19 m.
Width of front at top, outside.	1.42	1.33	+0.09
Width of front at bottom, inside.	1.14	1.09	+0.05
Width of front at top, inside.	1.085	1.10	-0.015
Width of right wing at bottom, outside. .	0.73	0.705	+0.025
Width of left wing at bottom, outside. .	0.55	0.705	-0.155
Height of front at right corner.	0.82	0.86	-0.04
Height of front at left corner.	0.82	0.835	-0.015
Height of front at centre.	0.96	ca. 1.03	-0.07
Thickness of front and sides at bottom .	0.23	0.175	+0.055
Thickness of front at top.	0.165	0.12	+0.045
Thickness of right wing at top.	0.155	0.115	+0.04
Thickness of left wing at top.	0.165	0.115	+0.05
Average height of relief.	0.08	0.06	+0.02

The most important of these variations can also be seen at a glance in Figure 1, which shows the outlines of the two fronts drawn at the same scale. On both monuments the spaces occupied by the figures in relief are bounded below by curved lines, beginning near the centre of the front and at the ends of the wings,

and rising towards the two corners. On the monument in Boston the parts thus cut off at the bottom are filled with ornaments carved in low relief in the form of Ionic scrolls with volutes at each end, the larger volutes meeting at the angle and supporting a flaring palmette. The corners of the companion piece in Rome evidently once had similar ornaments; they were, however, made separately, and have not survived. As may be seen in Figure 1, the curving ground coincides almost perfectly on both reliefs. It is thus possible to restore the monument in Rome, as Studniczka has done (*l. c.* p. 77, fig. 17), with angle ornaments of exactly the

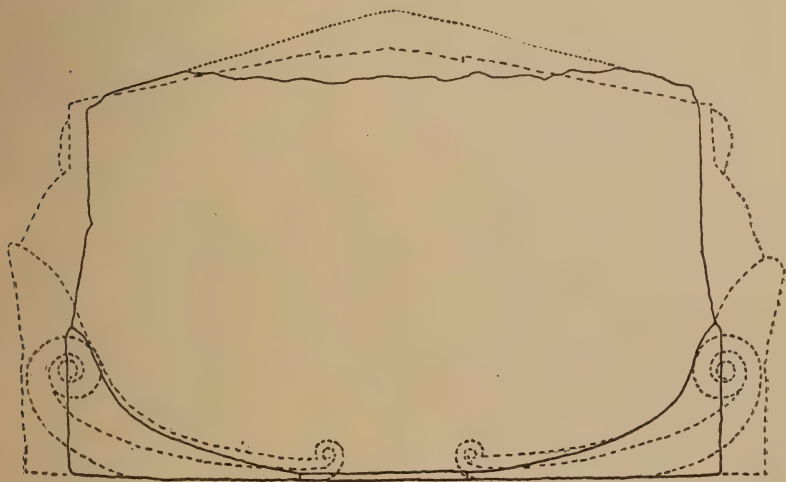


FIGURE 1.—SUPERIMPOSED OUTLINES OF THE TWO FRONTS.

dimensions and design of those on the companion piece, except for the small volutes' at the inner terminations of the scrolls; and the addition of these ornaments makes the two fronts of equal width at the bottom. The comparatively slight variation between the two monuments in the width of the front at the top, and in the height at the ends and at the apex of the gable can be reasonably explained as due to differences in the composition of the reliefs. The group on the front of the Ludovisi relief is composed in such a way that the interest of the beholder is concentrated upon the central figure, and especially upon her upturned countenance framed by the interlocking arms and the bowed heads of the attendants. Though the figures cover almost the whole field, it is noteworthy that the backs of the stooping figures

do not extend to the lateral margins of the block, while their shoulders and heads must have touched, perhaps even have projected slightly above the sloping lines of the gable. Moreover, in order to get sufficient space for the woman at the right and for the figure on the adjoining wing, the sculptor has not hesitated to make that end of the block 2.5 cm. higher than the other (PLATE IV, A).

The three figures on the front of the Boston relief are composed according to a different scheme (PLATE IV, B). Here the central figure is subordinate; the attention of the spectator is inevitably directed to the two women and the varying emotions with which they watch the result of the weighing. The scene with its two seated figures spread apart by the large balance called for a background relatively broader and less high than that of the companion piece. The block is actually 9 cm. broader and 7 cm. lower at the centre. But this is not all. In order to accommodate the two seated figures it was necessary to render them on a somewhat smaller scale than those on the Roman relief, and to allow them to project some distance beyond the lateral margins of the background. As a result they were brought into connection with the architectural ornaments, which in the other monument were entirely separate members. It is obvious also that the height of relief adopted could not be less than the amount of projection of the two seated figures beyond the margin. On the monument in Rome, where the corners of the block were not hidden, the carving of the figures in somewhat lower relief gave a more pleasing effect.

The forms of the wings were similarly adapted to the single seated figures with which they were decorated. The heavily draped woman burning incense on the right wing of the Ludovisi relief is seated in such a way that her back does not reach the corner of the block; but its upper margin runs along the contour of her head as far as her forehead, and then continues in an oblique line, leaving just enough space for her hand. It is worth noting also that the lid of the thymiaterion must originally have projected slightly beyond the edge of the slab. The nude girl playing the flutes on the left wing is seated in a more easy pose, leaning back farther and with her legs crossed. The upper margin again follows the outline of her head, and continues in an oblique line nearly parallel with the flutes. Her right foot must have projected slightly beyond the end of the slab (PLATE V, A, B).

The right wing of the monument in Boston is 2.5 cm. wider

than those of the companion piece in their present state, but somewhat narrower than the latter would be with the missing angle ornaments restored. The back of the boy playing the lyre had to be brought close to the adjoining figure on the front. He sits at a higher level than the women on the wings of the other monument, and is consequently rendered on a slightly smaller scale. The different outline of the upper margin is obviously due to the lyre which the boy holds (PLATE V, d).

The most striking departure from architectural symmetry is afforded by the left wing of the monument in Boston. On it is represented an old woman seated on the ground with her legs drawn up; part of her body is concealed behind the ornament at the angle. She held up before her a mysterious object, which has been almost entirely chiselled away. It extended above her left hand almost to the upper margin; its lower portion projected beyond the end of the slab. The Ionic scroll must have projected still further, since it is reasonable to assume that it corresponded originally in length with that on the opposite wing (PLATE V, c).

This peculiar relation of the ornaments to the reliefs and of the reliefs to their backgrounds has been clearly summarized by Fothergill as follows: "The volutes and palmettes alone have any architectonic significance, and these are only ornaments on the top of some structure below. The shape of the mass of the marbles is prescribed by a line drawn over the outermost projections of the figures. The side representing the old woman is smaller than the other because she is in a huddled up position, and the gabled form of the fronts is the inevitable result of an ordinary pyramidal grouping of the figures. The background therefore is 'ideal space,' and for many reasons (its low pitch, its having had no cornice, its odd shape, and odder relation to the akroteria below) cannot be thought of as architectonic structure."¹

This statement fails only to account for the akroteria on the apex and outer angles of both gables, for the existence of which there is clear evidence. The bedding for the central akroterion on the monument in Boston shows that it was of considerable size, and certainly of marble. The akroteria at the ends were supported only by thin cylindrical dowels. Studniczka has accordingly restored them in the form of doves with spread wings. The effect is, however, far from satisfactory. To modern taste,

¹ *Burl. Mag.* XVII, July 1910, p. 232.

at least, all three ornaments, whatever their forms may have been, seem superfluous and disturbing.

The foregoing analysis of the forms of the monuments makes it unnecessary to discuss at length some of the theories which have been advanced in explanation of the purpose for which they were made and their relation to one another. In the first publication of the Ludovisi relief Visconti suggested that it might have formed a parapet about an opening in a pavement, through which a flight of steps led to a subterranean chamber.¹ But this has been disproved by the discovery of the companion piece. Another theory according to which the reliefs were the ends of a sarcophagus is no more satisfactory.² The differences in dimensions forbid connecting the two reliefs as parts of one continuous structure. The top and end surfaces of the wings show no traces of having been cut down in later times; and it is difficult to see how the lid of the supposed sarcophagus could have rested on the two gabled ends, which do not correspond in outline, are not worked as surfaces of contact, and supported acroteria. Before the existence of the counterpart in Boston had become known, Petersen proposed to explain the Ludovisi monument as the upper part—the back and arms—of a large seat or throne. He brought it into connection with a colossal head of Aphrodite, also in the Ludovisi collection, and supposed that the statue and the throne, originally set up in the sanctuary of Aphrodite on Mount Eryx, were brought to Rome to adorn the temple of Venus Erycina, dedicated in 181 B.C.³ This temple was situated outside the Porta Collina, near which the relief was found. Nothing is, however, known as to the finding place of the head of Aphrodite, which is of a different variety of marble, and carved in a somewhat more archaic style. Moreover the proportions of the relief are not those of a throne. The space between the two wings is much too shallow to accommodate the colossal statue. The arms could therefore have reached only a little more than half way towards the front of the seat. And the relation in height between the arms and the back is not what would be expected. Since the discovery of the relief in Boston the theory, which was formerly widely accepted, has lost favor. Petersen now holds that the two monuments formed the ends of a colossal couch

¹ *B. Com. Rom. l. c.*

² Cf. Studniczka, *l. c.* p. 83.

³ *Röm. Mitt.* VII, 1892, pp. 33 ff.

which was set up in a temple of Aphrodite in connection with the cult of Adonis.¹ There is, however, no evidence to support this theory; and the two reliefs do not suggest the structural forms of the ends of a bed any more than they do those of a chair or throne.

The shape and decoration of the monuments are more satisfactorily accounted for by the theory, first proposed by Puchstein, and accepted by Marshall² and Studniczka,³ that they were ornaments set on the narrow ends of a long, rectangular altar. Though close analogies are lacking, the volutes and the parapets rising above them are found separately on numerous representations of Greek altars, as well as on extant examples. The tops of altars were often formed like the pulvinus or cushion of the Ionic capital. An hellenistic altar excavated at Pergamum has volutes extending like horns, and turned upward as on the Boston relief.⁴ In no instance, however, are pairs of volutes found both on the ends and on the sides. The best parallels to the angle ornaments are furnished by a series of archaic acroteria found in Miletus and its vicinity.⁵ They are composed of a pair of up-turned volutes meeting in a right angle and supporting a palmette. In von Gerkan's restoration of the altar of Poseidon near Miletus these acroteria are placed on the corners of the coping surrounding the altar platform.⁶ The reliefs have also been compared with the *κρατενταί* (low parapets or screens) which have been found at the ends of early Sicilian altars,⁷ and are often shown in vase paintings. A fragment in the Palermo Museum, presumably from such a parapet, has mouldings above and below, and a cushion-like projection along the bottom of the inner face. If it has been correctly used by Koldewey and Puchstein in their restoration of the great altar of Zeus at Olympia,⁸ it lends some support to the hypothesis that the three-sided reliefs were similar members on an altar of smaller dimensions.

¹ *Vom alten Rom*⁴, p. 142.

² *Burl. Mag.* XVII, July 1910, p. 247.

³ *L. c.* pp. 92 ff.

⁴ Studniczka, *l. c.* p. 70, figs. 13, 14.

⁵ *Ibid.* pp. 66, 67, figs. 9-11.

⁶ *Milet*, I, iv; 'Der Poseidonaltar bei Kap Monodendri,' von A. v. Gerkan. Pl. XXV.

⁷ Cf. Studniczka, *l. c.* p. 94, fig. 30.

⁸ Cf. Studniczka, *l. c.* p. 95, fig. 31.

This theory is however rejected by Kjellberg¹ and Amelung.² In the opinion of the former the comparatively slight weathering of the surfaces shows that the monuments cannot have stood in the open air throughout antiquity. Both Kjellberg and Amelung argue that the differences in dimensions are too great to permit placing the reliefs symmetrically upon a single rectangular base. The argument from the condition of the surface does not seem conclusive, since many Greek marbles which must have been exposed for several centuries show no greater weathering. And the slight variations in the width, height, and thickness of the

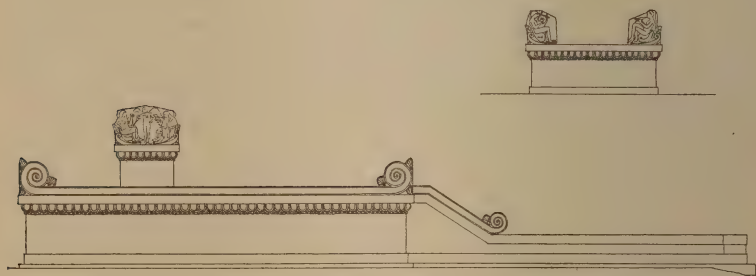


FIGURE 2.—THE RELIEFS AND THE ALTAR OF POSEIDON.

slabs would not be noticeable if the reliefs were set up some yards apart. It must be admitted that the angle ornaments in Studniczka's restoration of the Ludovisi monument project "like horns" in an unpleasant manner. But it would be difficult to design substitutes which would not project, and at the same time fit the curves at the bottom of the relief. Kjellberg proposes no alternative explanation; and Amelung reverts to the even less satisfactory theory of a throne.

The problem cannot as yet be regarded as solved, but the hypothesis that the reliefs decorated an altar affords a possible explanation and by far the most probable one yet imagined. Their appearance in such a position is suggested in Figure 2, showing them set on top of the altar of Poseidon near Miletus, the dimensions of which, as restored conjecturally by von Gerkan, happen to fit those of the reliefs almost exactly. Only scanty remains of this altar are preserved, and it belongs to a much earlier period. The acroterion from the Delphinium at Miletus is more

¹ *Ausonia*, VI, 1912, pp. 101 ff.

² In Helbig, *Führer*³, II, p. 79.

nearly contemporary; and the rough treatment of its rear surface, as well as the cuttings in the base just back of the volutes, suggests that it may also have had screens which were made separately.

II

THE SUBJECTS REPRESENTED BY THE RELIEFS

The groups on the fronts and the single seated figures on the wings of the two monuments are among the most interesting and at the same time the most baffling to be found in the whole repertory of Greek reliefs. None of the numerous attempts to interpret them has met with unqualified acceptance. It is evident that the figures have reference to some religious cult, but opinions differ as to whether they should be explained as human beings with a symbolical significance, or as actors in one or another of the Greek myths. Those who hold the former view see in the central figure on the front of the Ludovisi relief a woman in the act of childbirth,¹ while the two seated figures on the companion relief are "mortal women, and the action represented is symbolic of what to a Greek mind was the destiny of woman.

. . . Eros, the great primeval divinity, is weighing out to the two wives the assurance of lineage . . . the continuance of the family in male line by a grown-up son."² The interpretation of the central figure on the Ludovisi relief as a woman in travail has been refuted by Studniczka with arguments that seem convincing. It is true that the custom of giving birth in a kneeling position was practised in ancient Greece. But, as Marshall admits, "Nothing whatever in the scene suggests childbirth to an uninitiated spectator." The woman does not appear to be kneeling, and the function of the drapery held before her cannot be satisfactorily explained. Nor is the hypothesis supported by any analogous representations in Greek art. And if it be rejected, Marshall's imaginative interpretation of the scene on the Boston relief must fall with it.

The mythological interpretations of the Ludovisi relief, with the exception of that of Klein, are based on the assumption that the central figure is rising into the light of day with the aid of the

¹ Robert, in Preller, *Griechische Mythologie* I, 514, 1; Wolters, 'Εφ. 'Αρχ. 1892, p. 227. Marshall, *l. c.* Cf. also Klein, *Geschichte der griechischen Kunst*, I, p. 394, who explains the scene as a representation of Leto giving birth to Apollo and Artemis on the island of Delos.

² Marshall, *l. c.*

two attendants. The goddess is variously identified as Aphrodite rising out of the sea, as a fountain nymph, or as Pandora, Kore, or Ge rising out of the earth. The first of these interpretations has justly gained the widest popularity. Though not illustrated on extant contemporary monuments, it was represented by Phidias on the pedestal of the great statue of Zeus at Olympia. There, according to Pausanias, V, 11, 8, Aphrodite was received by Eros, and crowned by Peitho, whereas the two maidens on the



FIGURE 3.—ATTIC SCYPHUS: BOSTON.

relief are probably the Seasons, who are mentioned in the smaller Homeric hymn to Aphrodite as receiving the goddess from the waves:

τὴν δὲ χρυσάμπυκες Ὠραι
δέξαντ' ἀσπασίως, περὶ δ' ἄμβροτα εἶματα ἔσσαν.

Robert's explanation of certain vase paintings as representations of the rising of fountain nymphs¹ has in its turn been relegated to the class of archaeological fairy tales by Furtwängler.² The rising of Ge, Persephone, and Pandora is frequently illustrated on vases. But the attending figures in these scenes are quite different in character and actions from

¹ *Archäologische Märchen*, pp. 179 ff.

² *Jb. Arch.* I. VI, 1891, p. 113.

those on the relief, as Studniczka has observed, and as is strikingly illustrated by an Attic scyphus in Boston (Fig. 3).¹ Moreover, on the vases the ground from which the figure emerges is represented merely by a horizontal line, while the sloping ground in the relief and the pebbles which are realistically indicated on it suggest unmistakably a shelving beach. The drapery, which so beautifully masks the abrupt termination of the figure at the level of the thighs, has been plausibly explained by Studniczka as the lower part of the long, ungirt Ionic dress of the goddess.² Its upper part, as often in archaic Greek sculpture, is treated in a different manner. It clings closely to the form in little, rippling folds as if wet, and the two long tresses falling on the breast of the goddess also have a damp appearance. Whether this is intentional or merely a stylistic peculiarity, there is undoubtedly much in the relief which is in harmony with the theory, and nothing which contradicts it. A strong argument in its favor is also furnished by the subjects represented on the wings and on the front of the companion piece.

The smiling, winged boy holding the scales on the relief in Boston is unmistakably Eros, and the only acceptable interpretation of the scene yet proposed is that it represents the decision of the fate of Adonis. According to one version of the myth the dispute between Aphrodite and Persephone for the possession of the beautiful youth was settled by dividing the year into three parts, one to be spent with Aphrodite, another with Persephone, while Adonis was given freedom to choose where he would spend the third. And his choice was in favor of Aphrodite. The representation of this uneven partition by means of a balance and of the alternate fates as small figures of Adonis weighed against one another seems quite in keeping with Greek ideas. In the smiling goddess seated at the left, next to the heavier scale, who raises her hand in a gesture of pleased surprise, Studniczka recognizes Aphrodite, while the figure at the right, who rests her bowed head on her hand in an attitude expressing dejection and grief, is Persephone mourning the loss of Adonis. The pomegranate carved in low relief in the lower right hand corner of the

¹ Most recently published by Miss Swindler in *A.J.A.* XIX, 1915, p. 413, fig. 8. For other examples cf. Studniczka, *l. c.* pp. 108 ff., figs. 36-38, 40; Robert, *l. c.*; J. E. Harrison, *Prolegomena*, pp. 276 ff.

² *L. c.* p. 114, figs. 43, 44. He might have cited as a parallel the scyphus in Boston just referred to, where the goddess holds up the ends of her dress herself.

monument was a fruit sacred to the Chthonian divinities, and thus a symbol appropriate to Persephone, and the fish in the opposite corner may well refer to the seaborn goddess. A somewhat different interpretation is proposed by Eisler,¹ who sees in the scene a more definite reference to the astronomic significance of the Phoenician myth of Adonis. According to him the balance represents the zodiacal constellation Libra which announced the approach of the autumnal equinox. The two small figures in the scales symbolize on the one hand Adonis sinking into the lower world at the coming of winter, on the other his rising in the spring. And the two seated figures, which are exactly alike in type and costume, represent a duplication of Aphrodite, mourning on the one side the departure of Adonis, and on the other rejoicing at his return.²

Among the other explanations which have been advanced that of Marshall has already been dismissed as depending entirely upon an erroneous interpretation of the Ludovisi relief. He is, however, perhaps right in regarding the fish and the pomegranate at the corners as not having any direct reference to the figures above them, especially as they are repeated on the two wings, but rather as emblems suggesting that "the ritual of the altar resembled in certain particulars that observed at Eleusis." The fish below the old woman on the left wing is a red mullet (*mullus surmuletus*), that on the front, as Studniczka has shown,³ a grey mullet (*mugil cephalus*). Marshall observes that the former at least, as well as the pomegranate, was sacred to Hekate-Artemis, and forbidden fruit to the participants in the mysteries.

The scene has also been brought into connection with the story of the Trojan war, and explained as the *psychostasia*, or weighing of the souls of heroes, which is described in Homer⁴ as taking place on Olympus before the fight between Achilles and Hector, and which formed the subject of a lost tragedy of Aeschylus dealing with the duel between Achilles and Memnon. The figure at the left would then be Thetis, and the sorrowing goddess either, as De Mot has suggested,⁵ Aphrodite, who espoused the

¹ *Münch. Jb. Bild. K.* VII, 1912, p. 78.

² Gardner, *J.H.S.* XXXIII, 1914, p. 360, cites this reduplication of Aphrodite and Adonis as evidence of the late origin of the reliefs. But cf. Elderkin, *Art in America*, V, 1916-17, p. 280.

³ *L. c.* p. 129, fig. 53.

⁴ *Iliad*, XXII, 210 ff.

⁵ *R. Arch.* XVII, 1911, p. 149.

cause of the Trojans, or Eos, the mother of Memnon, as has been proposed by Fairbanks.¹ In the numerous representations of this scene on vases² the weights in the scales are diminutive winged figures representing the souls of the heroes, or else warriors in the attitude of combat, and the holder of the scales is appropriately Hermes Psychagogos. The central figure on the relief, however, has none of the familiar attributes of Hermes, who is moreover never represented in Greek art as a half-grown, winged boy. De Mot would therefore call him Thanatos; but, as Studniczka observes, this is sufficiently disproved by his smiling countenance. The boy can only be Eros, and the myth, whether or not it has been correctly interpreted as the decision of the fate of Adonis, must be connected with the cult of Aphrodite, who is herself represented on the front of the companion piece, and whose votaries are probably to be recognized in the figures on the wings.

These four seated figures have been interpreted by most commentators as types of worshippers of the divinity in whose shrine the monuments were erected. Studniczka, however, connects them more intimately with the scenes on the fronts, and finds names for them all.³ According to him the old woman is Hippolyte, the nurse of Myrrha, the mother of Adonis, holding a branch of the myrrh tree into which the nymph was transformed. The figure playing the lyre is Adonis himself. The flute player, seated opposite him on the other relief, is Aphrodite, "die sommerliche Göttin zur Hingabe an den Geliebten bereit." The woman burning incense is again Aphrodite, this time in the guise of a widow, bereft of Adonis. There are, however, serious difficulties in the way of accepting any of these ingenious identifications.

Let us begin with the slab on which the old woman is carved. The abnormal proportions of this wing, whatever their cause, belong to the original design. The background to the left of the figure shows no trace of reworking except near the front where some object must have projected beyond the margin. The unusual pose of the figure is due primarily to the narrowness of the slab. But it must also have been chosen by the artist as suited to the character he wished to portray; and that it was not originated by him is shown by the pictures of Aethra and a

¹ *B. Mus. F. A.* VIII, 1910, p. 17.

² A list is given by Studniczka, *l. c.* pp. 132 ff.

³ His interpretation is accepted by Elderkin, *Art in America*, *l. c.*

Trojan girl squatting on the ground on the Vivenzio hydria (Fig. 4). To return to Studniczka's theory. One wonders why the nurse should figure so prominently in the story. And the tree, on which her identification depends, although cleverly reconstructed from the traces of an object which has been chiselled away, was probably not a tree at all. These traces suggest a somewhat different restoration, and explain the omission of the woman's left forearm, a peculiar detail which Studniczka does not discuss. The present condition of the end of the relief is shown



FIGURE 4.—SEATED WOMEN ON THE VIVENZIO VASE.

in the drawings, Figure 5. The woman's right knee has been entirely reworked, and the lower margin of the reworked surface is horizontal, which would not be the case if the object removed had been a branch curving up from the trunk of the tree. Studniczka's restoration is inaccurate in this respect. Moreover, the traces of reworking on the end of the slab at this level extend farther back from the front edge than they do immediately below, suggesting that the marble which has been removed projected farther from the margin of the relief at this point. When these bits of evidence are considered in connection with the missing forearm and hand, it becomes highly probable, if not certain, that the arm is to be imagined as bent at the elbow and held between the knees with the hand projecting somewhat as indicated in Figure 5. This disposes of the tree, but unfortunately without supplying a satisfactory alternative. Marshall's suggestion that

the woman held a branch as a suppliant hardly accounts for the poses of the two hands or for the traces on the lower part of the slab. And Petersen's theory that the woman is a midwife, holding some implement of her profession, seems far-fetched.¹ Nor does it seem possible that the object was a large phallus.



FIGURE 5.—THE LEFT WING OF THE BOSTON RELIEF.

Such an old woman might appropriately be represented as working with wool, though in this case one looks for a ritual, rather than an everyday act.¹ The outlines of the object held in the right hand do not resemble a distaff, such as is clearly represented on the stele from Tyrnovo, a contemporary work of the North Greek School.² It might be a mass of unprepared wool, which the woman was drawing out to form the preliminary thread, which was afterwards wound upon the distaff to be spun. But, as Hauser has shown,³ Greek women usually performed this operation by rubbing the wool against their bare leg, or against a terra-cotta implement, the *epinetron* or *onos*, laid over the knee.

¹ *Vom alten Rom*⁴, p. 142.

² *Ath. Mitt.* XV, 1890, pl. IV, 1.

³ *Jh. Oest. Arch.* I. XII, 1909, pp. 80 ff.

And the traces on the lower part of the slab hardly suggest the basket which is generally represented in these scenes. The problem still awaits a solution.

The significance of the figure, however, does not depend entirely on the nature of the attribute. The artist has employed all the resources at his command to represent a woman far advanced in years, and apparently of humble rank in society. While the other three figures are seated on cushions, she sits in a huddled up position on the ground. Her feet are bare; her hair is cut short; she wears a simple Doric dress. The ravages of age are seen in the wrinkles on her face and hand, in the profile with its hooked nose, its lips suggesting toothless gums, its sagging chin, and in the way in which the bones of the shoulders show through the wasted flesh. Such realism in a work of transitional Greek sculpture is a startling phenomenon, though by no means unique. The figure of the "seer" from the east pediment of the temple of Zeus at Olympia is at exactly the same stage of artistic development, and treated with the same sort of realism. One is tempted, however, to cite as the closest parallel to the old woman, not a work of Greek sculpture at all, but a passage from Villon's famous poem, "*Regrets de la belle Heaulmière jà parvenue à vieillesse*," from which De Mot has already quoted one line in this connection. The last three stanzas read, in places, almost like a description of the old woman on the relief:

Le front ridè, les cheveux gris,
 Les sourcils cheux, les yeux estainctz,
 Qui faisoient regars et ris,
 Dont maintz marchans furent attaincts;
 Nez courbé, de beaulté loingtains;
 Oreilles pendans et moussues;
 Le vis pally, mort et destaincts;
 Menton foncé, lèvres peaussues;

C'est d'humaine beaulté l'yssues!
 Les bras courts et les mains contraictes,
 Les épaulles toutes bossues;
 Mammelles, quoy! toutes retraictes,
 Telles les hanches que les tettes,
 Du sadinet, fy! Quant des cuysses,
 Cuysses ne sont plus, mais cuyssettes.
 Grivelées comme sauleisses.

Ainsi le bon temps regrettons
 Entre nous, pouvres vieilles sottes,
 Assises bas, à croppetons,
 Tout en ung tas comme pelottes.
 A petit feu de chenevottes.
 Tost allumées, tost estainctes;
 Et jadis fusmes si mignottes! . . .
 Ainsi en prend à maintz et maintes. (*Edit. Jannet.*)

The analogy is of course not to be pressed too far; but that the Greek sculptor was striving to express, with his much more limited means, somewhat the same idea as the French poet, is, I think, indicated by his insistence, to a degree quite exceptional in the art of his day, on the disfiguring marks of extreme old age.

The strongest possible contrast is afforded by the figure of the flute player on the left wing of the Ludovisi relief. Here we have *la belle Heaulmière* in her youth. But to return from Villon to Studniczka. The representation of the female form completely



FIGURE 6.—FLUTE-PLAYER ON PETROGRAD PSYCTER.

nude in a work of sculpture of the transitional period is a most surprising phenomenon, but not nearly so surprising as the theory which sees in this flute-playing girl, lolling at ease with her legs crossed,¹ with puckered lips and cheeks puffed out, with wisps of

¹ Dr. Paton calls my attention to Aristophanes, *Clouds* l. 983, where the well brought-up boys of the earlier generation are described as being taught when at table *οὐδ' ἴσχειν τῷ πόδι' ἐναλλάξ*. It may be inferred that such an attitude was regarded as even more unseemly for women. Penelope, in the Vatican statue and on the Chiusi scyphus, and Electra on the Melian relief, *Mon. dell' Inst.*

hair escaping untidily from under her cap, a representation of Aphrodite herself instead of one of her humbler votaries. A recent writer on Euphronios estimates too highly the fame which that vase painter enjoyed in his own generation when she assumes that the Ludovisi flute player was copied from the hetaira "Sekline" on the Petrograd psycter which was painted some twenty years earlier¹ (Fig. 6). But the comparison which has often been made between these two figures is very much to the point: one is as unmistakably meant to represent a courtesan as the other.

It is equally difficult to believe, with Studniczka, that a Greek would have recognized Aphrodite in the woman burning incense—an act of ritual performed in her own honor. The two figures on the wings of the Ludovisi relief are far more satisfactorily explained as types of human worshippers of the goddess—a courtesan and a married woman. The incense burner is not a "bride" as Petersen called her, nor a "widow" as it is now the fashion to designate her, for there is nothing in her costume to suggest the former, as Nillson has pointed out,² nor in her expression to suggest the latter. Nor does there seem to be justification for regarding the figures as symbolical of the different seasons of the year, as has been proposed by several commentators.³ It is hard to see how to a modern mind, and still less to a Greek mind, the contrast between a nude and a draped figure should of itself suggest a variation in temperature.

We come finally to the lyre player on the right wing of the

VI, 1861, Pl. LVII, 1, sit with their legs crossed. But both are depicted under the stress of strong emotion and careless of their outward appearance. They are thus exceptions which help to prove the rule. The woman playing the lyre on the Melian relief in the British Museum, *Catalogue of Terra-Cottas*, B. 367, Pl. XIX, is evidently an hetaira, not Sappho, as she has sometimes been called.

¹ E. Radford, *J.H.S.* XXXV, 1915, p. 111.

² *Röm. Mitt.* XXI, 1906, pp. 307 ff.

³ E. A. Gardner, *J.H.S.* XXXIII, 1913, p. 75, for whom the figures on the sides "evidently have reference to the seasons of summer and winter, whether we prefer to describe them as Nymphs or Horae." Cf. also Studniczka, *l. c.* p. 192, "Das andere Mal als traurige Witwe wie fröstelnd eingehüllt," and Eisler, *l. c.* p. 79, "Die trauervolle Einsamkeit der verhüllten Priesterinnen am winterlichen Opferfeuer." Elderkin, *l. c.* p. 284, is under the influence of the same idea when he suggests that the two nude figures were placed on the sunny south side of the altar, and the two draped women on the north side. But what evidence we have as to the orientation of Greek altars forces us to place these figures on the east and west faces.

relief in Boston. Is he Adonis himself in the guise of a full-grown youth, "reif für sein flötendes Gegenüber," as Studniczka would have us believe,—a sort of "Rosenkavalier,"—or is he a boy "modest and dutiful, playing a lyre because he is of school age, and music is the main thing he learns," as Marshall interprets him. The figure is actually smaller than the old woman or the women on the wings of the Ludovisi relief, who are all represented on one scale. The difference, however, is hardly apparent, and may be due to the dimensions of the background and to the pose selected by the artist. Yet the very fact that he sits up more stiffly tells in favor of Marshall's interpretation. An interesting parallel is furnished by the drawing on an unpublished lecythus in Boston, reproduced in Figure 7.¹ This muscular youth with down on his cheeks, who leans far back and lifts his head, carried away by the music he is making, would form a more appropriate companion to the flute player. The distinction drawn by Studniczka between the lyre player and the Eros as regards bodily development is not very apparent. Neither shows markedly childlike characteristics, as could indeed hardly be expected of a sculptor of this period. In short, the significance of the lyre player seems to have been more truly comprehended by Marshall.



FIGURE 7.—FROM A LECYTHUS
IN BOSTON.

Since the discovery of the monument in Boston there has been a tendency to pair off the two musicians as bright and joyous figures, and to associate the incense burner with the old woman because of their supposed brooding and sadness. While this is legitimate, it seems to me that a different grouping brings out more clearly the character of the four figures. The matron and the boy show modesty, earnestness, and reverence, qualities which are lacking in the fluteplayer. The lyre player recalls the descrip-

¹ Museum of Fine Arts, *Annual Report*, 1913, p. 91.

tion by the *Δίκαιος Λόγος* in the *Clouds* of the discipline and careful education received by Greek boys in the good old days. Delicacy and aristocratic refinement are suggested by the profile of the incense burner, by the rendering of her hands, which are in strong contrast to the coarser hands and wrists of the hetaira,¹ and by all the lines of her body and limbs as they are revealed through the tightly-wrapped himation. The flute player and the old woman, on the other hand, are people of a lower social stratum, and rendered with quite a different *ἥθος*. In addition to this contrast between the two pairs of figures, that between the courtesan and the wife on the Ludovisi relief still holds good, and it is balanced on the counterpart in Boston by a contrast between youth and old age.

The four figures of worshippers thus attest the universality of the cult of the life giving goddess. All the subtle responses and contrasts which they suggest cannot be adequately described in words. But it has seemed worth while to call attention to them, not only because this power of portraying diversified characters constitutes one of the chief charms of the reliefs, but also because it is a new phenomenon in Greek art. In the following section it will be necessary to consider whether this quality appears only in these reliefs or whether it is also to be recognized in other contemporary works, and if so to seek for the source from which it was derived.

III

THE TECHNIQUE AND STYLE OF THE RELIEFS

The Ludovisi relief has been ascribed by Petersen to the Attic School, and connected tentatively with the artist Calamis, a theory which is accepted by Reinach and others.² Marshall, because of the indication of the stony soil on the Ludovisi relief and of the volutes on the companion piece, assigns them to an Ionic school. Amelung also classes them as Ionic, and Studniczka labels them Attic-Ionic. But these terms have only a vague meaning, especially as applied to works of the transitional period, when Athens had become the recognized leader of Ionic Greece. The extant contemporary sculptures most suitable for comparison are not the statues which are assigned on more or less (usually

¹ I am indebted to Mrs. R. B. Perry for calling my attention to this point.

² Petersen, *Röm. Mitt.* VII, 1892, pp. 68, 78; Reinach, *Gaz. B.-A.* VII, 1912, p. 69.

less) probable grounds to one or another of the famous sculptors of the day, but rather the decorative architectural sculptures and the grave reliefs.

Very little material of this kind is furnished by Athens itself. Attic grave reliefs, of which there are abundant examples for the pre-Persian period and from the Periclean age downward, are entirely lacking for the years 480–450 B.C. Aside from the small relief of the "Mourning Athena," the Lanckoronsky relief of Athena¹, and a beautiful female head published by Furtwängler² (Fig. 8), it would be difficult to cite a single



FIGURE 8.—FEMALE HEAD IN ATHENS.

example of Attic sculpture in relief. On the other hand many grave reliefs of this period have been found in various regions of northern Greece. And, while these are for the most part of inferior merit, their uniform characteristics led Brunn to assign them to a local North Greek school which in his opinion was strongly influenced by the fresco painters of the time.³ By far the closest parallel to the reliefs in question is furnished

¹ Published by Schrader, *Jh. Oest. Arch. I.* XVI, 1913, Pl. I.

² 'Εφ. 'Αρχ. 1901, p. 143, pl. VIII. Cf. Schrader, *l. c.* p. 58, fig. 61, who believes it to be from a metope of the Parthenon.

³ 'Paionios und die nordgriechische Kunst,' *Kleine Schriften*, pp. 184 ff. 'Die Skulpturen von Olympia,' *Ibid.* pp. 201 ff.

by the beautiful stele of a girl holding a dove in the Conservatori Museum (Fig. 9), which has been ascribed by several authorities



FIGURE 9.—STELE IN CONSERVATORI MUSEUM.

to the same North Greek School.¹ Another grave relief of slightly later date, and also of unknown provenience—the Giustiniani stele in Berlin²—resembles the reliefs in several details of style and execution, not to mention the striking similarity to the incense burner in the pose of the head and the arms (Fig. 10.) Among architectural sculptures the metopes from the temple of Hera at Selinus are contemporary, but poorly preserved and different in material and technique. A wealth of illustrative material is, however, furnished by the metopes and pedimental groups of the temple of Zeus at Olympia. Finally, in view of the relation of early Greek relief sculpture to painting, it is natural to seek for analogies in the designs on Attic red-figured vases of the severe style, and among them not so much in the works of Euphronios and his fellows as in the series of vases dated approximately between 465 and 450 B.C., which show the influence of the great transitional frescoes.

But, it may be asked, how can works like the Olympia sculp-

¹ Koepp, *Röm. Mitt.* I, 1886, p. 126. Helbig, *Führer*² I, p. 408. Amelung, *ibid.*³ I, p. 558. Hauser, in Furtwängler-Reichhold, *Griechische Vasenmalerei*, II, p. 311. For a dissenting opinion cf. Studniczka, *l. c.* p. 175. Ghirardini, *B. Com. Rom.* 1883, pp. 153–161, called the relief Attic.

² *Ant. Denk.* Pl. 33, 2. Brunn-Bruckmann, *Denkmäler*, pl. 417 c. Cf. *Register*, p. 57, where Arndt ascribes it tentatively to the North Greek school.

tures, which are so different in purpose, size, technique, and feeling, be expected to throw any light upon the reliefs in question, especially since the latter are "Ionic," and the former are often classed as "Peloponnesian"? There is, however, at least one resemblance between them: both sets of sculptures contain numerous peculiar features which have made it difficult to assign them to their place in the historic development of Greek art. In the case of the Olympia sculptures this is shown by the fact that they have been variously attributed to northern Greeks, Athenians, Argives, Sicyonians, Corinthians, Eleans, Sicilians, Parians, —the list, in fact, approaches the length of an Homeric catalogue of ships. Most of these theories are not worth examining, but that one of them which somewhat vaguely assigns the sculptures to Peloponnesian artists has enjoyed the support of several authorities, and has been quite generally accepted in the handbooks of Greek sculpture. Studniczka, for example, still holds them to be "nach wie vor echt peloponnesisch,"¹ and he does this after Hauser's publication of the two craters of the Polygnotan period in New York, which goes so far towards rehabilitating the brilliant hypothesis of Brunn that the sculptors of the

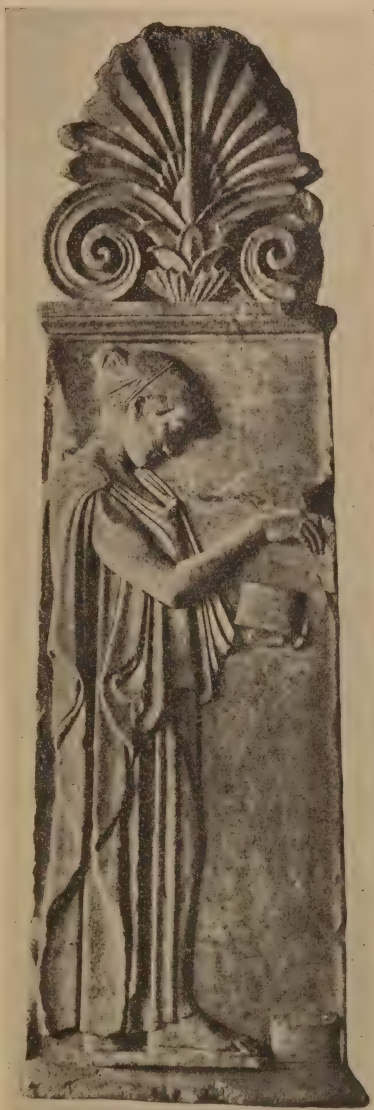


FIGURE 10.—GIUSTINIANI STELE:
EERLIN.

¹ *L. c.* p. 191.

Olympia pediments and metopes belonged to a North Greek school under the dominating influence of Polygnotus.¹

Curiously enough, if one takes the trouble to look through the literature on these sculptures, one finds only the briefest possible statements of the Peloponnesian theory, sometimes made with a promise that the question is to be dealt with more fully on a later occasion,—a promise which, however, is never kept. Perhaps the most complete presentation of the theory, though now in some respects out of date as its author has recently remarked,² is that of Studniczka covering four pages of the *Römische Mitteilungen* (Vol. II, 1887, pp. 53–57). The points on which he chiefly relies are the costume worn by the female figures and the rendering of the nude male form. The naïvely naturalistic arrangement of the folds of the drapery he passes over lightly as being only “a mark of the epoch which begins to imitate nature strictly in everything.” What seems to him more significant is that with the single exception of the Lapith bride (O) in the west pediment all the women wear the Doric peplos. This style of dress, originally worn by all the Greeks, but supplanted for a time by the Ionic linen chiton, returned to use soon after the Persian wars. “But the Ionic dress does not entirely disappear; it continues to be used side by side with the Doric in a freer form. This stage is represented by the art of Phidias, of whom in this and in other respects Polygnotus was a predecessor.” On the other hand in the severe period of Attic vase painting (510–460 B.C.) “the archaic Ionic dress still predominates.” From this he infers, reasonably enough, that the Doric dress was revived earlier in the Peloponnese, and then jumps to the conclusion that the majority of the sculptures executed in the first half of the fifth century in which this dress appears must be ascribed to a Peloponnesian school. But it is manifestly unfair to use as evidence Attic vases which are contemporary with the Aegina pediments, and to neglect the vases of the Polygnotan period on which examples of the Doric peplos are by no means uncommon. Furtwängler, who dates the beginning of this style of vases about 465 B.C., gives a long, but by no means exhaustive list of figures on them wearing the Doric dress.³ This list includes numerous examples of the peplos with long, overgirt apoxygma which was

¹ *Griechische Vasenmalerei*, II, pls. 116–119, pp. 297 ff.

² Studniczka, *l. c.* p. 191, note 5.

³ *Masterpieces*, p. 24, note 6.

favoured by Myron and Phidias, but is not found on works of known Peloponnesian origin,—aside from the Olympia pediments where it occurs thrice.¹ The combination of both costumes on the Artemis of the Selinus metope Studniczka explains by the theory that these works show in general many traces of Ionic influence; but such an argument could also be reversed, and applied to the Olympia sculptures. He also refrains from mentioning the well known relief of the three Graces, the original of which is held to be an Attic work of 470 B.C.,² and on which two out of the three figures wear the Doric costume. Moreover, of the seven draped figures on the Ludovisi relief and its companion piece, two are dressed in the Doric fashion, and no one would on this account ascribe the works to a Doric sculptor under strong Ionic influence. And how would Studniczka account for the Doric dresses of the two girls on the relief from Pharsalus in the Louvre? An unprejudiced examination of the monuments shows only that the peplos came into general use again during the transitional period; it does not show that the sculptures of this time can be summarily labelled “Ionic” or “Doric” according as the figures wear Ionic or Doric garments. Thus Studniczka’s chief argument is seen to be inconclusive, to say the least.

What of the second argument,—the rendering of the nude form in which the Peloponnesian sculptors especially excelled? Studniczka’s description of the male figures among the Olympia sculptures can hardly be called enthusiastic: “If one excepts very imperfect works like the seated boy, or an intentional imitation of the relaxed forms of old age, and takes as a norm the quiet figures such as Zeus, Pelops, Oenomaus, and Apollo, in my opinion we cannot deny to the artists a clear understanding of the principal forms and their connection. . . . Moreover, in pedimental statues, exhibited in an elevated position and brilliantly illuminated, this summary execution, which, by suppressing details, brings out more clearly the principal forms, is even more advantageous than the *καταῤῥῆσις*, the excessive refinement of the Aeginetan sculptures.” All this, however, does not bring us very close to the athletic art of the Peloponnesian school, nor to Ageladas, the master of Myron and Polyclitus. It is perhaps fair to expect that a nude male figure by a Peloponnesian sculptor

¹ East pediment O; west pediment B and U.

² For a bibliography cf. Amelung, *Die Skulpturen des vaticanischen Museums*, I., *Museo Chiaramonti*, No. 360, p. 547.

of 460 B.C., even one designed for a pediment, should show a greater advance from the stage illustrated by the Attic pre-Persian statue of an ephebe from the Acropolis. The quietly standing figures, on which Studniczka bases his argument, are in fact less advanced, and consequently less significant, than the figures which show an attempt at realism in the rendering of old age (East N) or in the rendering of violent action and complicated poses which accentuate anatomical details.¹ And for such figures the athletic statues of the school of Ageladas, as far as is known, furnished no models,—except those of his pupil, Myron, who was an Athenian. Moreover, the flesh of all the figures is treated in a soft manner, as if it were covered by a layer of fat. In this respect it resembles the North Greek reliefs (as Brunn perceived) and the nude figures on the two reliefs here discussed; but it is in striking contrast to the hard, dry modelling of the Aeginetan pedimental figures, the tyrannicides, the works of Myron, and some of the Parthenon metopes. Finally, there is hardly a trace of the influence of the technique of bronze, which might be expected if the pediments were made by members of the Peloponnesian School. The argument from the style of the nude figures is thus seen to be even weaker than that from the style of the dress.

Fortunately it is now possible to do more than eliminate the Peloponnesian School as the chief influence on the style of the Olympia sculptures, and to offer a more satisfactory solution of the problem. As has been remarked above, Hauser with the help of fresh evidence from vase paintings has rescued Brunn's theory from the disrepute in which it had lain for many years, and presented it in a new form, laying less emphasis on the North Greek sculptures and more on the influence of Polygnotus. The same point of view will be adopted in the following analysis of the technique and style of the Ludovisi and Boston reliefs.

Before embarking on this, however, one more seeming obstacle remains to be cleared away. In a recent volume of the *Journal of Hellenic Studies*² Professor E. A. Gardner has published an attack on the authenticity of the relief in Boston as a companion piece to the Ludovisi relief; and, though this has already been an-

¹ Cf. the Heracles in the Cretan bull metope; the river gods, A and B, in the east pediment; the seated boy, E, in the same pediment; the Lapiths, C and T, in the west pediment.

² *J.H.S.* XXXIII, 1913, pp. 73-83; cf. also p. 360.

swered by Norton,¹ it cannot be entirely passed over in silence here. The logic of his argument is weakened by his inability to decide whether the relief is a modern forgery, a product of the neo-Attic school, or a fifth century work from the hand of a sculptor of inferior merit and different traditions. He also reveals a very superficial acquaintance with the monument discussed, and a novel archaeological method. Any characteristic which appears to him to be without parallels (though exact parallels are to be found in almost every case) is used as an argument against the genuineness of the relief. And, on the other hand, every point of resemblance to the Ludovisi relief or other contemporary works helps to prove that the relief in Boston is "imitative and eclectic." Curiously enough the Olympia sculptures are not once mentioned in the course of his article. As a sample of his reasoning we may take his discussion of the scales and the diminutive figures standing in them. These he finds to be "the most remarkable things in the whole relief," and to them he has appropriately devoted the most remarkable paragraph in his whole essay. He is disturbed by the fact that "the cone in which these figures stand is formed by filling in the space between the strings supporting the scale of the balance, a peculiar convention for which I know no parallel in ancient or modern art, nor is any quoted by Studniczka." He forgets for the moment that *the background in any relief is a convention*, which would seem to relieve Studniczka from the obligation of citing parallels. The only imaginable alternative in the present instance would have been to make the strings of wire, and to place bronze statuettes in the pans of the scales!

He objects also to the technique of the two small figures, but since the only example he cites of the genuine Greek method of carving such figures is the relief on the throne of the priest of Dionysus in the theatre at Athens—a work of uncertain date which has never been placed earlier than the latter part of the fourth century—this objection may be passed over as of no great weight.

It is difficult also to see the point of his comparison of the right hand figure with the hanging Marsyas of Pergamene art, since the only resemblance consists in the fact that both figures are suspended. Nor do the proportions and character of the figures remind one so much of the works of Burne-Jones, as they do of

¹ *J.H.S.* XXXIV, 1914, pp. 66-75.

the athletes depicted by Brygos¹ or of details on the Ludovisi relief itself. The feet of the right hand figure resemble those of the Hours so closely as to furnish an argument that both reliefs were made in the same atelier, if not by the same hand; and the sketchy indication of the outline of the ribs in the left hand youth would not have been a difficult feat for the sculptor who has left us so wonderful a study of a suspended frontal figure as the Aphrodite on the Ludovisi relief.

The real trouble is with the subject, not with the way in which it is treated. The motive, though frequently represented on vase paintings, is not paralleled in sculpture. But, given the motive, it must be admitted that the artist has surmounted its difficulties with rare skill. The balance was such an important feature that it had to be made large in order not to seem ridiculous. And for the double reason of making it not unduly conspicuous and of avoiding the appearance of too great fragility, it was advisable to connect it as far as possible with the relief figures. This was accomplished by making the beam rest against the chest and arms of the Eros and by placing the weights in contact with the legs of the seated figures.

It seems unnecessary to give a detailed criticism of the whole of Gardner's article. Some of his statements will, however, be discussed in the course of the analysis of the reliefs, for which the way has now at last been prepared.

1. The Treatment of the Surfaces of the Relief, and the Poses of the Figures

The figures in the monument in Boston are carved in somewhat higher relief than those on the companion piece in Rome; and the difference is manifestly due to the composition of the weighing scene on the front. For the seated figures, spread apart by the large balance, necessarily projected beyond the ends of the background, and the height of relief had to be approximately equal to the amount of projection. It also facilitated the carving of the central figure in a frontal pose. According to Gardner there is also another and more important difference in the treatment of the relief surfaces on the two monuments. "The Boston relief," in his opinion, "shows no trace whatever of the principle that Greek relief is compressed as it were between two planes, the

¹ A point already brought out by Studniczka, *l. c.* p. 167. Cf. also the jumpers on the Brygan scyphus in Boston, *A.J.A.* XIX, 1915, pl. VII, VIII.

plane of the background and the original front plane of the slab." Norton also admits that the front plane is less thoroughly kept than in the Ludovisi relief. But this criticism is not justified by the facts. The supposed abnormalities which Gardner points out are all in the figure of Eros, and are all explained by the difficulty of rendering a relief figure in direct front view—a problem rarely attempted by a transitional sculptor. Whatever clumsiness there may be in the Eros is not due to any disregard of the principles of Greek relief, but to their strict observance. The figure is on a smaller scale than the others and is therefore in relatively higher relief. *It nowhere projects beyond the ideal front plane*; but the background slopes backward slightly towards the top, and inward from the sides to the centre. As a result the projection of the head is 10.5 cm., as compared with 8 cm. on the rest of the monument, and 6 cm. on the companion piece. The Eros is thus in rather high relief, and may fairly be compared with the Olympia metopes.¹ These include at least two figures—the Hesperid in the Atlas metope and the Athena in the Augean stables metope—whose bodies are in direct front view. Their heads are in profile because they are interested in the action depicted at one side of them, whereas the function of the holder of the scales demanded that his head should be in front view. The problem of rendering the legs was simplified in the case of the women on the metopes by the garments which cover them. But a certain stiffness, due to the unusual pose, is observable. The knees of the Eros are "almost in the round"; but so are the knees of Heracles in several of the metopes. His head also is in the round, as is usual in high reliefs; and the Olympia metopes again offer several parallels. The face is flattened somewhat into one plane, illustrating a survival of the early artist's tendency to carve an object as if it existed only in two dimensions. The rendering of the feet has also been censured by Gardner; but the problem has been solved in the way in which the sculptors of the Olympia metopes solved it, as is shown by three of the figures on the metopes just cited, and, moreover, in a way which scrupulously observes the ideal front plane.

According to Gardner, "The heads of all three figures on the front and the upper parts of the bodies of the two seated figures

¹ The height of the figure (0.915 m.) is 8.7 times the height of relief of the head. In the Olympia metopes the height (1.60 m.) is 6.4 times the height of relief (0.25 m.).

are in three-quarter face." But this is again inaccurate, as Norton has noted. Only one head—that of the sorrowing goddess—is in three-quarter face. Its pose is characteristic of the period, being illustrated not only in vase paintings but in several of the Olympia metopes. The head of Eros is inclined, but not turned to the side. The head of Aphrodite is exactly in profile. Her face is carved in a somewhat unusual manner, the explanation for which is, however, perfectly plain. The profile is seen, not against the background (which ideally represents empty space), but against her himation. To avoid the awkward effect of having her drapery seem to grow out of the middle of her face, the sculptor has hollowed out the background slightly. As a result part of the left side of her face is shown. Several heads in profile on the Olympia metopes show more than half of the face. As to the bodies it is difficult to see how any one could describe them as being in three-quarter view. The combination of the direct front view of the upper parts of the seated figures with the direct profile view of their legs is, in fact, the most archaic feature of the reliefs. Both breasts of each figure are practically in the front plane. And they do not "rise directly towards the front," but are "turned outwards so as to show in profile" almost as much as in the central figure of the Ludovisi relief, where the further exaggeration of this feature is due to the suspended pose. The ideal front plane, though less conspicuous than on the Ludovisi monument with its lower relief and fewer vacant spaces, is rigidly observed throughout.

2. *The Ornaments at the Angles*

The acroteria are composed of the familiar elements of Ionic architectural ornament. If the two sides of the palmette and the supporting volutes are imagined as being in one plane with the lower terminations of the scrolls shortened, the result resembles the usual type of antefix as well as the finials of archaic grave stelae. And in their actual form the ornaments find close analogies in the acroteria from the vicinity of Miletus already referred to. All the details can be paralleled in similar ornaments of the late archaic period. But some of them are treated in a new spirit. The indication of a mid-rib on the larger leaves, their delicately curled surfaces, and the doubly curved profile of the palmettes reveal a tendency to adapt these conventionalized motives to actual forms of plant life. The rosette, also, which

decorates the eye of the volute, is a real flower, apparently a daisy. In this respect the ornaments mark a great advance from such works as the tops of sixth century grave stelae from Samos,¹ and even from the acroteria of the temple of Aphaia. Their style thus harmonizes perfectly with the date 470–460 B.C. to which the two monuments are generally assigned. And, as De Mot has justly remarked, the unrivalled freshness and delicacy of their execution would furnish incontestable proof of the authenticity of the relief, if such were needed.²

3. *The Figures*

With the exception of the head of the old woman, and with due allowance for variations in pose and expression, all the heads on the two monuments are closely allied in type. The profiles show a low forehead, forming a very slight angle with the nose, full lips, and a prominent rounded chin, which is heavier in the rising Aphrodite and the lyre player than in the other figures. The eyes are set a little more deeply than in archaic works, but in the heads in profile they are still shown almost in front view. The eye-ball is fairly convex. The lids are heavy and sharply defined; and they meet at the outer corner without any overlapping, as they actually do in the eyes of young children, and in all Greek sculpture down to 450 B.C. The eyes in the Olympia sculptures and the Giustiniani stele are at exactly the same stage, while the eye in the Conservatori stele is slightly more archaic. The ears also, of which there is one example on the Ludovisi relief and three on the relief in Boston, are all alike, both as regards shape and delicately realistic execution. They are characterized especially by their breadth, by the size and depth of the opening, and by the smallness of the lobule.

The hair, though its arrangement varies to suit the character of the different figures, is rendered in the same technique throughout. The texture of the strands or curls is represented by means of finely engraved parallel lines. The hair of the rising Aphrodite falls in delicately rippled strands, each with three or four fine striations, while the strands themselves are separated by deeper engraved lines. The short, straight hair of the old woman is carved in identically the same manner, as are also the looped strands which show below the caps of the two seated goddesses

¹ Bochlau, *Aus ionischen Nekropolen*, pl. I.

² De Mot, *R. Arch.* XVII, 1911, p. 149.

and the incense burner. A similar loop appears above the forehead of the flute player, while another lock hangs loosely before her ear. The long hair of the Eros is arranged in two braids which are wound around his head, and tied together in front in the manner illustrated by the well-known pre-Persian head of a youth from the Athenian Acropolis, the Apollo of the Omphalos, the seated Zeus on one of the Selinus metopes, and the head of Hermes on the coins of Aenus, to mention only a few familiar examples. The lyre-player's hair is cut short in the style which was beginning to predominate at this period, and which is illustrated by the Delphi charioteer and by most of the male figures in the Olympia pediments and metopes. The details of the short locks are engraved in the same manner as on all the other heads. If there is any difference between the two reliefs in the treatment of the hair, it is that on the Ludovisi relief the strands are slightly larger and more sharply carved, giving a certain "wiry" texture not found on any of the heads in the Boston relief where the more finely engraved lines give a softer effect. Gardner's remarks on the treatment of the hair are incomprehensible to me.

The tendency to reveal the bodily forms through the clothing, which is most marked in the central figure on the front of the Ludovisi relief, appears also in the two attendants, in the upper part of the seated Aphrodite, and even in the incense burner who is tightly wrapped in her woolen mantle. The form of the rising goddess shows through the clinging garment as clearly as if she were nude. The breasts are spread apart farther than is usual in archaic sculpture, evidently because of the outstretched arms and suspended pose, though vase paintings of the severe style sometimes show an analogous treatment. Her pose accounts also for the accentuation of the outline of the ribs and the navel. The same strong tendency towards realism appears in the figure of the nude girl in which only the position of the right thigh is open to criticism. A comparison with the nude figures on the Boston relief shows an ability to distinguish between female and male forms which is unparalleled in transitional sculpture. The two nude boys are fully developed, but not of an athletic type. Though the anatomical structure is sufficiently understood, it is not emphasized, the bodies being covered with a soft layer of flesh with smoothly rounded surfaces. In this respect they are in the strongest contrast to the Aeginetan pediment groups and to what little is known of contemporary Peloponnesian sculp-

ture, but closely allied to the reliefs of the North Greek school and the Olympia sculptures. Among the latter the soft rendering of the bodily surfaces is most pronounced in the figures of Heracles and Atlas on the Atlas metope.

According to Gardner the hands on the relief in Boston "are treated with a knowledge of anatomy and perspective and a realism in details such as is hard to parallel in early reliefs." The first part of this statement is true, though the right hand of the Aphrodite on the front of the relief is drawn rather than carved in the round, and is not altogether successful as a study in perspective. So also is the right hand of the Eros which holds the balance. But parallels are not hard to find. Aside from the hands on the Ludovisi monument, which Gardner finds different, but which are actually at exactly the same stage of artistic development, a comparison with the Olympia sculptures again suggests itself. The hands of the pedimental figures are carved in a surprisingly realistic and individual style, so that if a new fragment were found it could be identified by this feature alone. And the same is true of the hands on the two reliefs. Aside from



FIGURE 11.—HAND WITH ALABASTRON: BOSTON.

the realistic details they are characterized by the slenderness of the fingers which turn up slightly at the tips. This last peculiarity is illustrated also by the Olympia sculptures, by the Conservatori and Giustiniani reliefs, by North Greek reliefs, and by a fragment in Boston showing a hand holding an alabastron (Fig. 11).

The feet also are all alike, except for the greater breadth of those on the monument in Boston which is executed in higher relief. Their most distinctive feature, illustrated by those which touch the ground only lightly or not at all (one foot of each of the Hours, and of the flute player; the feet of the small figure sus-

pended in the right hand scale) is the pronounced arch of the sole,—a new detail borrowed directly from nature.

4. The Drapery

Most of the female figures on the two reliefs wear the Ionic chiton with loose sleeves, and three have in addition a voluminous himation which is drawn up over their heads. For the sake of variety the Hour standing to the left of Aphrodite wears a sleeveless Doric chiton with an overfold reaching to the waist and matching the short *kolpos* of her companion. The simpler Doric garb was also found more appropriate to the character of

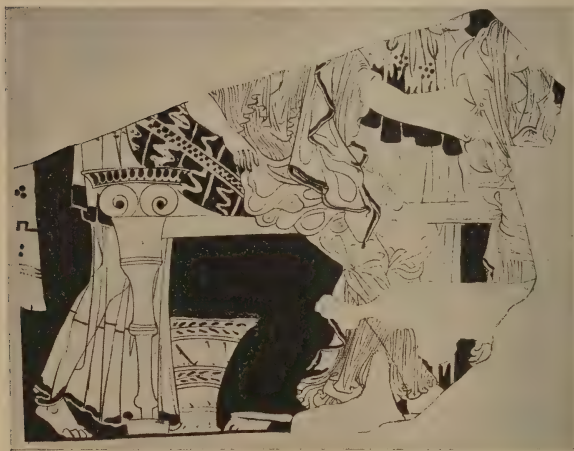


FIGURE 12.—FRAGMENT OF VASE: ATHENS.

the old woman on the left wing of the Boston relief. The *sakkos*, or cap, which confines the hair of the courtesan, is worn also by the incense burner and the two seated goddesses.

The style in which these draperies are executed can

be most truly described as "transitional." For the folds of the chitons are rendered for the most part by series of parallel lines, wavy or straight, in accordance with archaic convention, while the surfaces of the mantles reveal a careful study of the actual, accidental folds and creases that appear in soft woolen cloth. In the Olympia sculptures this new style is carried still farther. It is not thoroughly realistic, since the folds are still rendered largely by parallel grooves and by only a slight modulation of the surface, without the strong play of light and shade which characterizes the draperies of the Parthenon sculptures. Where the hollows are deepest they have a tendency to take the form of loops, or "eyes." This is especially well illustrated

by the kneeling Lapith woman, E, from the west pediment (cf. Fig. 14). It appears also in the himation of the smiling goddess on the front of the Boston relief, in the stele of Philis from Thasos, and in the Conservatori stele.

Similar "eye-folds," drawn in outline and generally filled with dilute glaze to indicate shadows, are found in a small series of vase paintings, executed about 460 B.C., most of which are demonstrably influenced by the frescoes of Polygnotus, Micon, and their contemporaries, *e.g.* the volute crater in New York¹ and the Argonaut crater in the Louvre.² A fragment in Athens with a representation of a seated woman³ furnishes a close parallel to the stele of Philis in the treatment of the folds about the hips, as Hauser has noted and as may be seen by comparing the photograph of it (Fig. 12) with Figure 13 in which the stele is reproduced in the technique of a vase painting. Figures 14 and 15 show attempts to render the kneeling Lapith woman and the Aphrodite of the Boston relief drawn in this same technique. The painter of the New York volute crater, as Hauser has observed, used this new style only for the more carefully executed



FIGURE 13.—STELE OF PHILIS.

¹ *Griech. Vasenmalerei*, II, pls. 116, 117.

² *Ibid.* II, pl. 108.

³ *Ibid.* II, p. 310, fig. 103.

pictures on the front of the vase. On the reverse he relapsed into the more familiar, conventional style. It is obvious that the eye-folds were not invented by the vase painters; and since they do not appear on contemporary sculptures in the round, it may be inferred that the artists of the reliefs and of the Olympia pediments, as well as of the vases, borrowed this new convention from the painters of the frescoes. In the same way the many striking resemblances in the composition of the west pediment at Olympia and of the Centauromachy on the New York crater can only be



FIGURE 14.—LAPITH WOMAN: OLYMPIA.

explained, as Hauser has suggested, on the theory that both were inspired by a fresco. Echoes of this "Polygnotan" style of rendering drapery are perceptible in two or three of the metopes of the Parthenon, especially the north metope XXXII (Fig. 16).

5. *The Accessories*

The representations of the lyre, the thymiaterion, and the pyxis again show a careful study of actual models. And, as already noted, the two fishes in the lower left hand angle of the relief in Boston are so realistically carved that they can be identified as red and grey

mullets respectively. In the indication of the pebbly beach Marshall sees an argument for attributing the relief to an Ionic school. It also recalls the statement in Pausanias' description (X, 25, 11) of the Iliupersis of Polygnotus that pebbles were indicated on the Trojan strand: ἄχρι μὲν δὴ τοῦ ἱππου

αἰγιαλός τε καὶ ἐν αὐτῷ ψηφίδες ὑποφαίνονται. The pillows also are admirable studies of still life; on two of them even the seams are indicated. To judge from the Centauromachy on the New York crater, the painter of the fresco on which it is based made a liberal use of similar cushions. We can compare also the realistic carving of the mattresses on which the women in the angles of the Olympian west pediment recline, and of the pillow used by Heracles in the Atlas metope to ease his load.

6. The Use of Color

The style of the reliefs cannot be fully comprehended without taking into account the colors with which large portions of the surface were originally covered. It may be regarded as



FIGURE 15.—APHRODITE FROM BOSTON RELIEF.

certain that the background was painted, and that the garments were distinguished by different tints. The hair, eyes, and lips of the figures were painted, but their bodies were presumably left in the natural tone of the marble. Certain details like the latchets of the sandals, worn by four of the figures on the Boston relief and by the incense burner, the strings of the lyre, the fillet of the old woman,¹ the handle of the balance, were not indicated plastically at all, but were left to be added by paint. Such use of color is of course not limited to reliefs, but is found also on Greek marble sculptures in the round. In the works under discussion, however, the influence of the sister art of painting is unusually strong. The figures in the great historical and mythological frescoes of Polygnotus and his school were in

¹ The way in which this fillet presses into the hair is found by Gardner to be unusual. It happens, however, to be illustrated repeatedly by the Olympia sculptures, *e.g.* the man, L, from the west pediment, the Theseus, west pediment M, the Centaur N, the back hair of Athena in the Nemean lion metope, the Heracles in the Atlas metope.

all probability line drawings, colored for the most part in flat tones, with only a very limited use of shading. And without doing an injustice to the plastic qualities of these reliefs—the play of light and shade on their softly modulated surfaces—it can fairly be said that their beauty depends to a great degree upon the design of the contours and the lines of the draperies. Moreover, many details were only made clearly perceptible by the addition of color. In the figures of the mourning goddess and the incense burner the edge of the himation running along the forearm is in the lowest possible relief, and the same is true of the mantle of the smiling goddess where it is



FIGURE 16.—METOPE OF PARTHENON.

outlined against the background. The lower edge of the incense burner's himation illustrates the same trait; and the lower edge of the old woman's apoxygma is at present hardly intelligible. The loose sleeves of the Hours which fall over the arms of the central figure, and the sleeve of the mourning goddess which falls upon her thigh are again in the lowest possible relief. The sleeves of the rising Aphrodite appear as if stuck upon the background; and the edges of her chiton are projected upon the background at either side in the same way.

All this was made clear when the different garments were distinguished from one another as well as from the flesh parts and the background by the application of colors.

In this connection a comparison with the Olympia sculptures

again suggests itself. As Brunn has remarked, the composition of the pediments is pictorial rather than sculptural. This applies more strictly to the west than to the east pediment. The five standing figures in the centre of the latter recall not only the figures from the Argonaut crater but also the descriptions of the groups of statues set up at Delphi and in other sanctuaries in rows or on a common semi-circular pedestal. And the two quadrigas with their drivers and grooms may have been inspired by the votive chariots set up at Olympia and Delphi by the tyrants of Syracuse and others in commemoration of their victories in the chariot race. But the struggling combatants in the centauro-machy of the west gable form real groups designed with a view to the decorative effect of the whole. They thus present a strong contrast to the Aeginetan pediment groups which are a collection of statues in the round,—each one worked separately and equally finished on all sides with a perfection of detail which could have counted for little after the figures were hoisted into place. Though the Aeginetan figures were brilliantly colored, they do not depend upon the painted decoration for their effectiveness any more than the bronze statues with which they are technically so closely related. But the sculptors of the Olympia pediments relied largely upon the use of color to attain the effect at which they were aiming. Details, such as the hair of some of the figures, are unintelligible without the aid of paint. The rear part of the centaur G, as Hauser has noted,¹ is entirely omitted in the marble, and, if represented at all, must have been painted on the background. The draperies are designed as masses of solid color; the folds, except for the characteristic “eyes,” are rendered in a linear rather than a plastic style, without any appreciation of the effect of strong light and shade, of which the sculptors of the Parthenon pediments were later to make such a wonderful use. On several of the figures (*e.g.* the seated boy, east pediment E; the “Alpheus,” east A; the reclining women, west A and V) a portion of the drapery lies flat along the body with its edge marked by a barely perceptible line, so that the garment when seen from a distance could not be distinguished from the flesh. This peculiar feature, which is also exemplified by the two reliefs, seems to have been borrowed from the technique of painting. In connection with Pliny’s statement that Polygnotus covered the heads of his women with bands of various colors (*capita earum mitris versicoloribus operuit*. N. H. XXXV,

¹ *Griech. Vasenmalerei*, II, p. 311.

58) Brunn has cited the headdresses of Philis and the maidens on the stele from Pharsalus, and the headcloths worn by several of the Lapith women in the Olympian west pediment. To this list may be added the *sakkoi* of four of the women on the reliefs under discussion, and the fillets of the girl on the Giustiniani stele. The object was to add a touch of bright color to the composition. This object was also attained by the coloring of the cushions and mattresses which figure prominently both in the reliefs and the Olympia sculptures.

7. *The Characterization of the Figures and the Expression of Emotion: ἦθος and πάθος.*

In the discussion of the subjects of the reliefs attention was called to the contrasts presented by the four worshippers on the wings of the monuments. This clear differentiation of their characters is achieved by a skillful selection of motives, poses, and costume, and to a limited degree by the variation of bodily and facial traits. Most of the figures are taken, as we have seen, from the repertory of types already created, but they are given a new and richer significance. Parallels in vase paintings to the old woman, the courtesan, and the lyre player have been illustrated above (Figs. 4, 6, 7). The frontal figure of Eros with wings outspread appears frequently on Attic vases of the severe style, and the position of his left arm with the hand on the hip is illustrated by the Oenomaus of the Olympia east pediment and a bronze statuette of about 460 B.C. in Boston.¹ The figure of the old woman does not show the "feeling of caricature" which Gardner finds in it so much as a sincere and astonishingly successful attempt to portray the characteristics of advanced old age. Among vase paintings the Aethra and other figures on the Vivenzio hydria, which belongs to a slightly earlier tradition, show an attempt at distinguishing the ages of the characters; and as examples of a more pronounced realistic treatment we may cite the fine portrait of an old soldier on a lecythus in New York,² and the gruesome hag on the scyphus by Pistoxenos in Schwerin.³

The Olympia sculptures once more offer close analogies in the heads of the old women at the ends of the west pediment, which are, it is true, restorations of Roman times, but evidently copied

¹ *J.H.S.* XXXIV, 1914, p. 75, fig. 2.

² *Griech. Vasenmalerei* II, p. 265, fig. 94 a.

³ *Jb. Arch.* I, XXVII, 1912, pls. VI, VIII.

closely from the originals they replaced,¹ and especially in the figure of the seated seer from the east pediment. His baldness, the crow's-feet in the corners of his eyes, the wrinkles on his forehead and finger joints, the folds of loose flesh on his chest, are evidently studied from life. Moreover, in these pediments, as in the triple reliefs, the characterization is not confined to the aged persons. The two pairs of figures in the centre of the east pediment are clearly differentiated. The greater age of Oenomaus is suggested not only by his beard, but by the deep folds of flesh running from the nose to the corners of the mouth. His face has a cruel, sinister look; and his pose expresses a careless confidence in the outcome of the contest. The figure of Pelops is more youthful, and the slight inclination of his head gives him a more modest mien. Though the figures of the two women are much mutilated, there is no difficulty in distinguishing Hippodameia from her mother: the pose of her arms suggests the shrinking modesty of the bride. In both pediments the subsidiary figures are characterized as belonging to a lower social sphere. The youth E in the east pediment, seated with one leg drawn up and pressing his forefinger on his great toe, and the reclining figures in the angles, can only be described as country louts. In the same way the reclining women in the west pediment are contrasted with the Lapith heroines, H and C. This tendency to portray rustic types is somewhat inappropriately illustrated by the Stymphalian birds metope. As Brunn has remarked, Athena is here a charming country girl perched on a rock, and unrecognizable except for her aegis.

All this brings up the question as to what is meant by "Polygnotan ēthos," a quality which is mentioned several times by ancient writers. Three of the four passages quoted by Overbeck² are from Aristotle. In comparing the later tragedies with those of the great age (*Poetics*, 6) he characterizes the former as ἀήθεις, the contrast being like that between Zeuxis and Polygnotus: ὁ μὲν Πολύγνωτος ἀγαθὸς ἡθογράφος, ἡ δὲ Ζεύξιδος γραφή οὐδὲν ἔχει ἥθους. In *Politics*, VIII, 5, 7, he again refers to Polygnotus as ἡθικός. And in *Poetics*, 2, he distinguishes different kinds of ἥθος:—ἐπεὶ δὲ

¹ It seems certain that the damaged original heads were sufficiently well preserved to serve as models to the restorer. The realistic rendering of old age which they show is not of the sort found in Hellenistic sculpture, but analogous to that of the "seer" from the east pediment. It is impossible to ascribe it to a restorer of the Graeco-Roman period.

² *Schriftquellen*, Nos. 1077-1079.

μιμῶνται οἱ μιμούμενοι πράττοντας, ἀναγκή δὲ τούτους ἢ σπουδαίους ἢ φαίλους εἶναι . . . ἦτοι βελτίονας ἢ καθ' ἡμᾶς ἢ χείρονας ἢ καὶ τοιούτους, ὥσπερ οἱ γραφεῖς· Πολύγνωτος μὲν γὰρ κρείττους, Παύσων δὲ χείρους, Διονύσιος δὲ ὁμοίους εἵκαζεν. That is, Polygnotus excelled in the portrayal of character, and he idealized his personages, —made them superior to ordinary men, whereas Pauson made them worse, and Dionysius made them as they actually were. This has led to a somewhat loose use of the term ἦθος by some modern writers. It is customary, for example, to speak of the ἦθος of the Parthenon frieze, meaning the high level of idealization maintained throughout. But the subsidiary figures in the Olympia pediments show just as much ἦθος, though of quite a different kind. On the other hand in the representation of the main personages, above all in the head of Apollo, the sculptor has risen to heights never before reached in Greek art, and certainly not surpassed by any pre-Phidian works which have survived. To what degree Aristotle would have found that these figures correspond to his definition of Polygnotan ἔθος, we have no means of knowing. We may, however, assume that not all the people in the frescoes of Polygnotus were represented at the same level of ideal beauty. The figure of Aethra in the Iliupersis was doubtless a realistic study of an old woman, as was the old woman with short cropped hair, holding a child in her arms, in the same picture (ἐν χρῶ κεκαρμένη πρεσβυτίς ἢ ἄνθρωπος εὐνουχος)—apparently a nurse, and probably so characterized as to distinguish her from the heroines who had their names inscribed beside them.

It is often said, and truly, that Polygnotus, Phidias, and their contemporaries expressed the typical, permanent qualities of the gods and men whom they represented, while it remained for Praxiteles and Scopas to render transitory emotion and passion—τὰ τῆς ψυχῆς πάθη. And the scene on the front of the Boston relief, therefore, seems to Gardner in this respect also to transgress the principles of transitional Greek sculpture. But the fact that fifth century artists emphasised ἦθος rather than πάθος does not prove that they avoided entirely the expression of emotion when the subject demanded it. The weighing scene, for example, would have been unintelligible if the varying emotions of the two goddesses had not been clearly expressed. The gestures and expressions which Gardner condemns as “affected” and “theatrical” might more appropriately be called “simple” and “naïve”; and they are entirely characteristic of the period.

The pose of the sorrowing goddess is, as Gardner is elsewhere eager to admit, exactly similar to that of the "Penelope type," preserved not only in a vase painting and in a Roman marble statue in the round, but also in the Chiaramonti relief, which is a fifth century original. And, as proof that the motive of the hand held to the head was a favorite device of transitional sculptors to express the emotions of weariness, anxiety, or fear, we are able to cite further the Heracles on one of the Olympia metopes standing over the body of the Nemean lion with his head propped on his hand, the seer from the east pediment who lifts his hand to his



FIGURE 17.—HEAD OF APHRODITE FROM BOSTON RELIEF.

cheek in a gesture which is certainly intended to be dramatic, and the reclining woman from the west pediment who clutches at her hair. This motive was also used several times by Polygnotus in the *Nekyia*. And the outstretched arm of Aphrodite is no more "affected" or "theatrical" than the outstretched arm of Hermes on the Thasian relief in the Louvre, or than the gesture of Eurystheus hiding in his pithos on an Olympia metope, or that of the woman, V, at the right end of the west pediment, not to speak of the hands of the maidens on the relief from Pharsalus which hold up flowers, or the hand of the woman on the Conservatori stele which holds up a fold of her himation.

The smile of Aphrodite was also necessary to the expression of the sculptor's idea, and perfectly in harmony with the style of the period. The smile is not rendered in the style of Praxiteles or of Leonardo but that it is not entirely lacking in charm is shown by the accompanying photograph (Fig. 17), reproduced to counteract the unfortunate impression given by the photographs published by Studniczka (*l. c.* p. 126, fig. 49) and Gardner (*l. c.* p. 78, fig. 1). In this connection we may recall the statement of Pliny to the effect that Polygnotus was the first to give his figures a pronounced facial expression (*instituit os adaperire, dentis ostendere, vultum ab antiquo rigore variare. N. H. XXXV, 58*), and compare the heads on the Argonaut crater, of which Hauser remarks that "whereas in earlier Greek vase paintings figures in the most violent action have perfectly calm features, here quietly posed figures have a strong facial expression." The painter has attempted to give character to the faces by indicating wrinkles on the forehead and folds in the cheeks, and by showing the teeth between the parted lips. Moreover, the Lapith bitten by a centaur in the west pediment of the temple at Olympia furnishes an instance of more pronounced facial expression than is to be found on the Boston relief; and the same is true in a less degree of some of the other figures in the same pediment.¹ The "pathos" as well as the "ēthos" shown by the reliefs is thus seen to be characteristic of the transitional period.

The foregoing discussion has sought to show that the triple relief in Boston is a true counterpart of the Ludovisi monument, not only in the externals of material, size, and form, but also in

¹ This would seem to disprove Gardner's statement (*l. c.* p. 79) that "such attempts at dramatic expression are alien to early Greek sculpture."

the essential features of technique, style, and spirit. In my opinion the relation between the two is so intimate as to warrant the belief that they were conceived in the same mind, and even executed by the same hand. Comparisons with contemporary works have shown further that many of the characteristics which seem at first sight peculiar are in complete harmony with the principles and practice of Greek artists of the time. The striking points of contact with a certain class of vase paintings and with the series of sculptures from the temple of Zeus at Olympia can only be explained as due to influence from a common source. And several reasons have been given for believing that this source was the great fresco paintings of the age. The west pediment of the temple at Olympia and the centaureomachy on the crater in New York were both in all probability inspired by the same painting. No such close connection between paintings and our reliefs can be proved, or is to be assumed. They are "imitative" and "eclectic" only in the sense that all the masterpieces of Greek sculpture are founded on what has gone before, and influenced by contemporary achievements. Their sculptor was a creative genius, and they will always remain unique. But he was keenly alive to the new movement which strove to imitate nature directly in the representation of the human form and of drapery, and to give a new significance to the figures through the expression of character, or *ēthos*. The leaders of this movement, in some of its phases at least, were, as we have seen, the painters rather than the sculptors. Our argument thus tends to support the literary testimony of the ancients which assigns to Polygnotus the dominating position among the artists of his day.

The sculptor at the same time did not throw overboard his inheritance from the archaic period. The singular charm of the reliefs is due in great measure to the happy blending of archaism with realism in the rendering of the figures and the draperies. And the softly modulated surfaces of the marble show the perfection of technique which had been developed by Ionian sculptors during the sixth century. The reliefs are the latest and most perfect expression in sculpture of that rich Ionian civilization which flourished on the Asiatic coast of the Aegean, and which, when dispersed from its original homes by the Persian invasion, passed on the torch to Athens.

L. D. CASKEY.

THE VIVENZIO VASE AND THE TYRANNICIDES

It is now nearly fifty years since Benndorf established the rule that one is not justified in assuming even a reminiscence of the Tyrannicides in any monument which does not contain both Harmodius and Aristogeiton. One alone will not do.¹ This rule has been tacitly accepted by most scholars, for although several attempts have been made to increase the list of reproductions by monuments that show but one of the group,² such single figures have been consistently avoided by those who have really furthered scientific study of the famous work of Critios and Nesiotes.³ On the other hand there is one monument, at least, which is not excluded from the list of reminiscences by Benndorf's rule, but which, so far as I know, has never been proposed for this honor: this monument is the well known Vivenzio vase of the Naples Museum (Fig. 1).⁴

¹ *Arch. Ztg.* XXVII, 1869, p. 107.

² *E. g. Arch. Ztg.* XII, 1854, pl. 68; XXVII, 1869, pl. 24, 3; *Jb. Arch. I.* XVIII, 1903, pl. 2.

³ The following bibliography, while not exhaustive, lists the more important works dealing with the monuments. Those marked with a star I have not seen. Stackelberg, *Gräber der Hellenen*, I, pp. 33-35; Friedrichs, *Arch. Ztg.* XVII, 1859, pp. 65-72; Michaelis, *Arch. Ztg.* XXIII, 1865, pp. 13-15; *J.H.S.* V, 1884, pp. 146-148; Benndorf, *Ann. Inst.* XXXIX, 1867, pp. 304-325; *Arch. Ztg.* XXVII, 1869, pp. 106-107; Petersen, *Arch. Ep. Mitt. Oest.** III, 1879, pp. 76 ff.; *Hermes*, XV, 1880, 475-477; *Röm. Mitt.* XVI, 1901, pp. 97-108; Boehlau, *Arch. Ztg.* XLI, 1883, pp. 215-222; Gräf, *Ath. Mitt.* V, 1890, pp. 1-39; Overbeck, *Ber. Sächs. Ges.* 1892, pp. 34-38; Hauser, *Jb. Arch. I.* X, 1895, p. 202, footnote 26; *Röm. Mitt.* XIX, 1904, pp. 164-182; Patroni,* *Atti della r. Accademia di Napoli*, XIX, 1898, 2, pt. 2; Sauer, *Röm. Mitt.* XV, 1900, pp. 219-222; Orsi, *Not. Scav.* 1900, p. 276; Koepp, *Jb. Kl. Alt.* IX, 1902, pp. 609-634; Corssen, *Arch. Anz.* XVIII, 1903, p. 41; Joubin,* *Sculpture grecque*, p. 36; Lechat, *La sculpture Attique avant Phidias*, pp. 444 ff.; Robinson, *B. Mus. F. A.* III, 1905, No. 4, pp. 27 ff.; P. J. Meier, *Röm. Mitt.* XX, 1905, pp. 330-347; Studniczka, *Jb. Kl. Alt.* XVII, 1906, pp. 546-549; Amelung, *Jb. Kl. Alt.* XIX, 1907, pp. 537-538; Schröder, *Jb. Arch. I.* XXVIII, 1913, pp. 26-34.

⁴ Best published, with adequate references in Furtwängler-Reichhold, *Griechische Vasenmalerei*, I, pp. 182-187, pl. 34. Older publications are worthless for our present study.

Our interest centers, at first, in the figures of Ajax and Neoptolemus which, although not copies of the Harmodius and Aristogiton, are inspired by them; the Ajax especially has many points



FIGURE 1.—THE VIVENZIO VASE: NAPLES.
(After Furtwängler-Reichhold.)

of resemblance: he is bearded; he leans forward and advances the whole left side; in his right hand, which is drawn back, he holds a sword ready for the thrust, and the sword is of the type seen in other reproductions of the Aristogeiton; the Ajax ad-

vances the left arm in precisely the same way and at the same angle. His hand grasps the hair of Cassandra in somewhat awkward fashion: in this particular we have too good a copy of the *Aristogeiton*.¹ As for differences: Ajax is clothed and armed with helmet, thorax, and greaves and bears a scabbard; his right foot is seen in profile while that of *Aristogeiton* was turned outward; and, finally, Ajax has no mantle over his arm, although the garment of Cassandra produces a somewhat similar effect.

The Neoptolemus resembles the *Harmodius* only in a general way: he is young and beardless; he faces left, brandishing a



FIGURE 2.—FRAGMENT OF A VASE: BOSTON.

sword over his right shoulder and the sword is of the type seen on the Boston fragment (Fig. 2). The chief difference between our figure and *Harmodius* is that here the left arm is stretched forward to grasp the shoulder of Priam and thereby the left side of the body, rather than the right, is advanced; at the same time the Neoptolemus must turn his back on the spectator. He is further represented with long hair and is provided with helmet, greaves, etc.

That the influence of the *Tyrannicides* was felt here seems to

¹ It is probably without significance for the restoration of the *Tyrannicides* that the left arm of Ajax is somewhat shorter than normal.

be indicated by the fact that elsewhere Ajax does not threaten Cassandra with the sword, once she reaches the statue of Athena.¹ Cassandra makes no forcible resistance and Ajax has no desire to slay her but to bear her away captive. While it is always possible that pictorial representation of the Pursuit of Cassandra, or of the episode of Menelaus and Helen, or some similar scene influenced the artist of the Vivenzio vase, it is quite as easy to suppose that the incentive came from the famous bronze group in the Agora. Similarly I know of no instance in which Neoptolemus attacks Priam with a sword raised above his head. In the usual tradition he swings the body of Astyanax before the aged king. There is no need of such a terrific blow as is here made ready, and one is somewhat disturbed by the fact that the sword must cut through the border of the picture before reaching its mark.

Whether or not the point is well taken that in drawing our vase the Tyrannicides were more or less in the artist's mind, it will not be out of place to examine in connection with it the vases which have been accepted as reflecting the bronze group. It is almost startling to observe the extreme divergence of the examples (Figs. 1-5): the Skaramangá figures are directed from left to right with Harmodius in the lead; in the Boston fragment Harmodius is again in the lead although the direction is to the left; the Panathenaic amphora places Aristogeiton in the lead and the figures advance to the left; in the Würzburg stamnos the figures advance toward each other with Hipparchus between them; in the Vivenzio vase an entirely different scene is depicted and six persons are placed between the two with whom we are concerned. Differences almost as great as these are to be seen in almost any particular we may care to investigate.

The Greek vase painter was not a slavish copyist but he was not afraid of borrowing an idea from any available source. Indeed it is more than likely that some vase painters had sketch books containing figures borrowed from the masterpieces of painting and sculpture that existed in the neighborhood. These figures, however, were seldom used exactly as they appeared in the copy book. Aside from conditions imposed by the subject matter the artist was limited by conditions of space, balance,

¹ Etruscan monuments are not to the point unless they can be shown to be accurate copies of Greek originals.

harmony, and rhythm. In the Panathenaic vase (Fig. 3) Aristogeiton rather than Harmodius leads because the space to be



FIGURE 3.—FROM A PANATHENAIC VASE.

filled is circular and this arrangement is more satisfactory than that in which the figures are interchanged. The reason that Harmodius is usually mentioned before Aristogeiton in ancient writers is that in this order a pleasing rhythm is produced and in this order the names can be more readily used in metrical forms.¹

Nevertheless little attention has been paid

by archaeologists to the fact that there are quite as important rules of composition in the graphic arts as in literature.

On the Skaramangá lecythus (Fig. 4) the space to be filled is



FIGURE 4.—THE SKARAMANGÁ LECYTHUS.

long and narrow so that the figures are separated and trees are added; furthermore, that Harmodius may not turn his back on

¹ Meier, *Röm. Mitt.* XX, 1905, p. 331; cf., however, Overbeck, *Ber. Sächs. Ges.* 1892, p. 36.

the spectator and cover his face with his raised right arm the painter even dared to represent him as left handed.

On the Würzburg stamnos (Fig. 5) there was also a fairly long field for which the artist bethought him of the story and decided to add a figure of Hipparchus. Given Hipparchus, his dramatic or melodramatic instinct could not be satisfied with anything less than the actual despatching of the tyrant. This, of course, meant that a new type of Aristogeiton must be employed.

In the Vivenzio vase the artist must compose for a zone which is very narrow at the top, and which is spread over an intricately curved surface. As the space for decoration is four or five times as long as it is high, there is room in it for a series of episodes or



FIGURE 5.—THE WÜRZBURG STAMNUS.

for a single extended composition. Our artist chose to depict several episodes, but his artistic ability, which was very great, enabled him to bind them into a single, well-unified whole. The general subject matter is the Iliupersis: the centre of the field is occupied by Priam, the remainder by members of his household and by Greek warriors, save as one end tells the story of the flight of Aeneas. Five episodes are represented: Death of Priam, Rape of Cassandra, Flight of Aeneas, Capture of Andromache, Recognition of Aethra by Acamas and Demophon. The artist selected the most important characters to represent standing, their heads filling practically all the space available at the

top of the zone. The lower part of the field has room for numerous sitting and kneeling figures and for two or three corpses.

So skilfully are the several episodes interwoven that one does not at first glance realize that they are so many. Let us see by what means the artist tied his groups together: the shape of the vase requires pyramidal arrangement of figures. In the Priam episode the centre of interest is the head of Priam, toward which are directed: the gaze of Neoptolemus, the lines of his sword and arms, the line of the scabbard, the lines of the left leg of Neoptolemus, the lines of the left leg of Astyanax, continued in the curved line of the back of Priam, and, finally, the lines of the trunk of the palm tree. But the top of the palm bends to the left, not as Furtwängler would have us believe, to show how wild and stormy was the night, but to connect this group artistically with the next. Again, the Hecuba seated beside the altar, although historically belonging with the Priam episode, connects the Priam and Cassandra episodes by the direction of the lines of her drapery, by the curve of her back, by her raised right hand, and by facing toward the left. On the right of Priam the lines of the raised arm and sword of Neoptolemus tie the Priam episode to that of Andromache, just as the pestle of Andromache ties her group to that in which Aethra figures. Only on the extreme left is the Aeneas episode divorced effectually from the rest of the composition. This is as it should be, for does not this little group succeed in getting entirely away from the scene?

If these points are well taken we can see how extreme must be the care in using any vase as a document in the history of Greek sculpture. The net gain to the Tyrannicides from the Vivenzio vase will not be large nor very positive. It does, however, raise again the question whether the beard of Aristogeiton was not a pointed beard rather than the bushy one of the Strassburg, Braunschweig, and Berlin restorations.¹ It confirms the type of sword in the hands of Aristogeiton in the Strassburg as against the Braunschweig restoration, although it supports Hauser's contention that it should be reduced a trifle in length. Perhaps the greatest improvement it suggests is in the type of sword to be placed in the hand of Harmodius: it should be a broad sword, without central rib or furrow, but heavy enough to be

¹ The untrimmed appearance of the beard of Aristogeiton on the Skaramangá lecythus should doubtless be attributed to the haste and carelessness of the painter.

effective in the slash. The scabbard may well be of a type to correspond with the sword, and bound about with leather.

Our vase affords no help as to the arrangement of the two figures in relation to each other, nor as to the position of the sword of Harmodius. In any case we must not forget that all our ancient reproductions of the arm and sword are flat copies, made in an age in which painting largely ignored the third dimension,—when such a group as the Tyrannicides must be recomposed to conform to the demands of the vase painter by whom perspective was hardly recognized, much less understood.¹ The sword of Harmodius in the bronze group need not have been parallel to the plane in which he is advancing. A restorer, working upon casts of the Naples copy, should be able to determine the possibility of artistically tying the two figures together by swinging the sword and arm more or less obliquely to the right or left.

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¹ It is for this reason that most of the vase paintings that reproduce the Tyrannicides display the feet in profile rather than subject the artist to the difficulties of foreshortening.

THREE UNKNOWN CHURCHES IN SPAIN

THESE three churches are S. Juan de Puerto Marin, el Sepulcro de Torres, and S. Martin de Unx; all, so far as discoverable, quite unpublished. The first two are found on the pilgrim's way: the former is indebted to the pilgrimage both going and coming, to workmen of southern France and to the school of Compostella; the second in part to the current of the Jerusalem pilgrimage; the third is in the half-French kingdom of Navarre.¹

I

Puerto Marin lies in a hollow land, as though you could only get there by getting lost. No highway leads thither, no wheels can go thereby; but the government now is building a road, straight as a string, over hill and dale, five leagues to Lugo. The noble church is named in no scholar's book, the loyal town but seldom in history. The archives all have perished. Florez records a convent, S. Maria de Ribalogio,² built here early in the tenth century by the countess Ilduara and her husband Gutierre, the parents of S. Rosendo. According to *The Book of S. James*,³ about 1120 Peter the Pilgrim was already at work on the roads, and was rebuilding with the help of God and good souls the bridge which Queen Urraca had broken down in war-time. He built also a hospice which he called Domus Dei. In 1126 Alfonso VII confirmed Doña Urraca's gift to him of the church of S. Mary for his own maintenance during the work, and afterwards for

¹ They think at Puerto Marin that the late D. Arturo Vasquez Nuñez was there once, but Sr. B. F. Alonso, of the Commission of Historic Mounments, Orense, is sure that he published nothing about the church. They tell at Torres that a Frenchman driving through once saw the tower from the road, like the present writer, and stopped to take notes and photographs: this was possibly the lamented Emile Bertaux. About S. Martin de Unx, Sr. Mas of Barcelona, on being asked for photographs, replied regretfully that he had made none, as he had never read of S. Martin in any book.

² *España Sagrada*, XVII, 24. This depended on Celanova.

³ Fita and Vinson, *Le Codex de S. Jacques de Compostelle*, Livre IV.

the up-keep of bridge and hospital.¹ In 1271 a certain Miguel Fernandez was Notario Publico del Rey in Pallares and Puerto Marin.² On May 20, 1379, a cedula of King Henry was signed there.³ In 1475, on November 20, the Catholic Kings signed in Sarria a privilege confirming the exclusive jurisdiction of the Knights of S. John⁴ over the encomiendas of Incio and Puerto Marin. Laborde, in 1808, counts Puerto Marin among the principal cities of Galicia.⁵

The town reckons, besides the parish church, dedicated to some S. John who was a bishop, a bridge-chapel, a convent, and on



FIGURE 1.—PUERTO MARIN.

the farther shore of the Miño, in a separate parish, a church dedicated to S. Peter, of the commonest Gallegan style, timber-roofed, with a single apse. The noble church of S. Juan was built, probably in the thirteenth century, straight from west to east under one man. The townsfolk have a legend that he died before it was completed. It belongs to the type of *Iglesias castillas*, and has a roofed loggia above the vaults, ample enough to accommodate the population (Fig. 1). At the four corners of this stand sculptured doorways, one with dog-tooth, another with the four-petalled flower, and low parapet walls enclose the space; the

¹ Lopez Ferreiro, *Historia de la Santa Apostolica Metropolitana Iglesia de Santiago*, IV, 75-76.

² *España Sagrada*, XLI, p. 80.

³ *Id.* p. 123.

⁴ Campomanes, *Disertaciones Historicas del Orden y Caballeria de los Templarios*, p. 250.

⁵ Laborde, *Itineraire Descriptif de l'Espagne*, II, 183.

floor is covered with earth, out of which projects what looks like living rock, pieces set with the strata on edge. Of the type of Castle-church which appears throughout southern France and the whole of Spain, Elne on the Mediterranean shore, and on the Atlantic Tuy, affording noble instances—nor may Ujué pass unnamed—Froissart gives a clear account:—

“‘Well,’ said the king, ‘what thing were best for me to do?’—‘Sir’ said the knight, ‘we shall show you: cause all your towns and castles on the frontier of Galice to be well kept, such as be of strength; and such as be of no strength, cause them to be beaten down: it is showed us how men of the country do fortify minsters, churches and steeples, and bring into them all their goods. Sir, surely this shall be the loss and confusion of your realm; for when the Englishmen ride abroad, these small holds, churches and steeples shall hold no while against them, but they shall be refreshed and nourished with such provision as they shall find in them, which shall further them to win all the residue. Therefore, sir, we say, an that ye do well, cause all such holds to be beaten down now while ye have leisure, and make a cry, that without everything be avoided into the good towns and into strong castles between this and the feast of All Saints, and else let it be forfayt and abandon it to your men of war, whosoever can catch it, or at the furthest by the feast of S. Andrew: it were better your own men had the profit thereof rather than your enemies.’”¹

The style of the church is transitional, with round arches yielding to pointed here and there in advancing eastward, and over the western rose. At the eastern end of the glorious nave a single bay of cross-vaulting replaces the pointed barrel; while the next bay has flanking capitals and the beginning of ribs. All the windows on the north side are blocked up, and all the lights of the great rose save the central. This signifies that the architect was not used to the climate, and the structural forms betray that he was French. As in Auvergne, the walls of the nave, outside and in, are strengthened with great longitudinal arches; under the heads of these the window mouldings rise, and against the mass of them the vaulting-shafts are set. As at Digne, in France, the barrel vault (here of four bays) is carried on transverse ribs, that come down each on a single column, and the intermediate ribs rest on a plain cornice. A rose occupies

¹ Froissart, *Chronicles of France, England and Spain*, Book III, ch. 48.

the wall space above the sanctuary: this consists of one bay of barrel vault and then an apse, which outside is seen to have three windows, rather low down, three-quarter columns for buttresses, and corbels under the roof; to resemble, in short, the old central apse of S. Isidor of Leon (Fig. 2).

In the tympanum of the north door stands a bishop with outstretched arms be-

tween two acolytes, who hold his pastoral staff and book. The mouldings of the round arch are very rich and include the dog-tooth, and something like the beak moulding I have seen in Asturias and England, and also in pictures of Scythian art. On the façade a great arch, enclosing all, leaves wide shallow pilasters at the corners that are really towers and carry fine winding stone stairs; of their emergence above I have spoken already. The immense and glorious rose has at the heart six cusps and six rings, then twelve pentagons, then twelve great rounds. The mould-

ings which enframe it are, first, the dog-tooth, and secondly a decoration used also on the door below, incessantly at Orense, and generally in Galicia,—a huge torus overlaid by cut-out scallops of half a circle or more.

The drip-stone over the portal is decorated with pine-cones carved directly after nature, with notable pleasure in the tri-

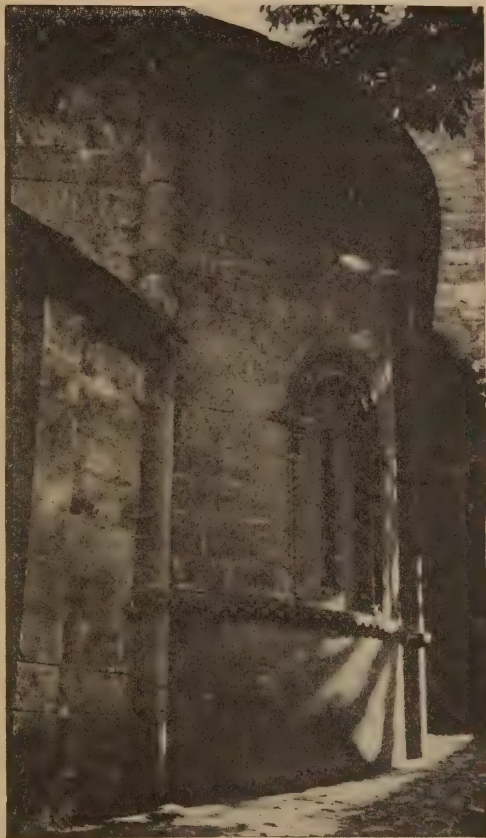


FIGURE 2.—PUERTO MARIN: APSE.

dimensional diaper that the overlapping scales afford. Inside the order described above, lies another also found at Compostella, large flowers of four petals curled at the corner with a knob at the centre. Innermost are ranged the four-and-twenty Elders, as at Compostella, then at Carboeiro, Noya, etc. On the flat plain tympanum is set an almond-shaped glory neatly edged with clouds, which

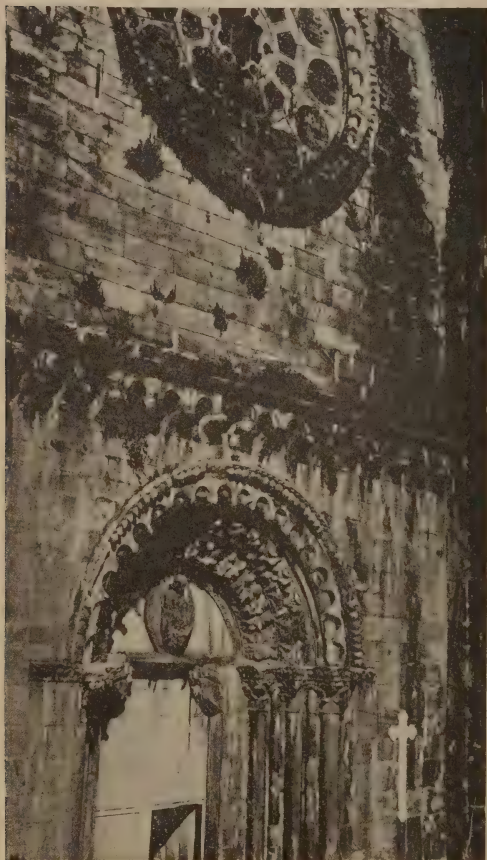


FIGURE 3.—PUERTO MARIN: WEST FRONT.

carries the seated figure of Christ blessing, with a book; this comes from the north porch at Lugo but is not copied directly, for the knees are drawn close together and the feet rest on a lion. On the jamb-brackets are a king and queen: the capitals and abacus are all Gallegan leaf-forms; the cornice which divides the space above the door is carved not with beasts but with purely decorative motives (Fig. 3).

There would be great satisfaction in giving the names of Alfonso and Urraca to the figures under the lintel and crediting the whole to Peter the Pilgrim, but unfortunately the one thing

we know about Puerto Marin is the history of Peter. He was such another as Pelle the Conqueror; he built a bridge and a hospital and worked on the roads, and he died a hundred years too soon. To Santiago we must refer a great deal of the decoration: the Elders, the flower-motive, the long leafage on capitals, that I have

elsewhere named the Gallegan cabbage, a border of leafage with edges curled in spirals, used at the cloister of the Sar and elsewhere. Master Matthew was directing the Compostellan school from 1188 till after 1217: these forms belong to him. Between S. Juan and Santiago the likenesses are decorative, or at any rate salient to the eye; the differences are structural. Though Santiago has the same great lateral arches to carry the weight of the walls, they are not, as here, the whole reliance; and at Santiago the windows of the aisles are just aisle windows, as at Aulnay, for instance; whereas in Puerto Marin, which has no aisles, they are nearer to clerestory in height and look. They are so treated also at Barbadelo¹. The unlovely figures over the south door represent local talent. Though they go back to the first style of Compostella, and the Puerta de las Platerias, they are archaic by imperfection. French directly are some early forms of capital among the vaulting-shafts, the austere abacus there, the connecting cornice, and perhaps the rose window, though Orense and Santiago both have a western rose and this, with the smaller one above the apse, becomes characteristic in a type of Gallegan parish church found mostly in the diocese of Orense. There are, moreover, a few churches in the southwest and southeast of France having one nave with pointed barrel vault. The manner of building with great arches along the side passed from Auvergne and Velay to the southwest, and thence into Spain: it might have been picked up anywhere in the pilgrimage.

The churches of Galicia are all later than they look, but after the coming of the friars the style was changed: Gothic dominates in the fourteenth century, and though some decorative elements persist, the structural are modified. This church, which is furthermore uncommonly sappy and vital, belongs in the thirteenth.

II

Torres, the seat of the *ermita* of el Sepulcro, stands in Navarre on the main road from Pampeluna to Logroño and Burgos, via Estella, Viana, and Najera. When Alfonso el Batallador in 1134 bequeathed his kingdom to the three Orders of the Temple, the Hospital, and the Holy Sepulchre,² the Canon Giraldo who came from Jerusalem in 1141 to take possession on behalf of the third, was unluckily sir priest and not sir knight, and in consequence

¹ Barbadelo was discussed in part in *A. J. A.* XX, 1916, pp. 417-419.

² Will in Briz Martinez, *Historia de S. Juan de la Peña*, p. 806.

the Order in Spain was always ecclesiastical and not chivalrous. When Giraldo ceded his claims on the throne, Ramon Berenguer gave him land and goods in Calatayud next to the Mozarabic quarter. The Order had houses in Saragossa, Barcelona, Huesca, Borja, and elsewhere in Aragon. Alfonso VII carried the canons into Castile, having taken a fancy to them when he held Calatayud for a while:



FIGURE 4.—TORRES: DOOR.

he gave them his palace in Logroño. They had houses also in Zamora, Toro, Salamanca (S. Cristobal), and Segovia, where their church, el Sepulcro, is usually called Vera Cruz and assigned to the Templars.¹ They had two provinces in Spain and celebrated Chapters.² The cross of the order is double-barred, the patriarchal or cross of Lorraine, and ends in a lily.³ I have found no record of a daughter-house at Torres, but the cross, with a difference, is carved on the tympanum, and I cannot doubt its affiliation.

The records of the town are scanty and unsatisfactory: near the road once stood a monastery, of which

the remains could still be traced in 1802, and the entire church survived, of very good and firm architecture, according to Traggia.⁴ This is not el Sepulcro, for D. Ximeno Galindez gave

¹ Street, *Gothic Architecture in Spain*, I, 260.

² La Fuente, *Historia Ecclesiastica de España*, IV, 157.

³ La Fuente, *España Sagrada*, L, xx.

⁴ *Diccionario Geografico-Historico de España*, II, 387.

it to the monastery of Irache in 1100, and indeed the phrase implies a massive Romanesque structure. D. Ximeno was lord of the land. In 1341 the town council had bought its freedom and rights from his successor in the centuries, D. Alvar Diaz de Medrano, but could not agree about dividing up the ploughland, and the town lapsed into the power of the king.¹ Through all these events, and the writing of history, the chapel, it seems, stood unmolested and unnoticed. The parish church is dedicated to S. Peter.

The conjectural date for the building falls after 1200 for various reasons; in especial, first, for the structural use of pointed arches, and further for the Parmesan influence discoverable. Outside, the wall-arcade is pointed, and noble windows fill the centre of each bay: the door is a low arch one-third of a circle, the abacus at the jambs carved with a leaf, and the drip-stone with the dog-tooth. The corbels under the roof are fluted in four scallops, and the cornice is a shallow hollow in which lie balls—a not uncommon Romanesque motive. The lantern, floored and blocked up like that at S. Cruz de la Seros, has a small round-headed window in alternate faces, and at the west a door opens towards the staircase turret. The roof, like that of the Templars' church at Eunat, consists of heavy flags of stone, well sunk in mortar. Steps lead across this, from the lantern door to that of the staircase turret which opens below into the church (Figs. 4, 5).

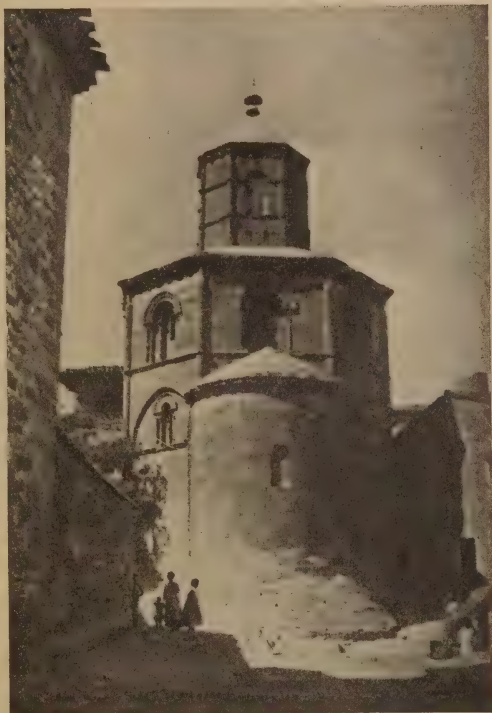


FIGURE 5.—TORRES: EAST END.

¹ Yangüas, *Diccionario de Antigüidades del Reino de Navarra*, III, 388.

Inside, a low stone bench runs around the octagon, and the shafts of the lowest range have disappeared, but their capitals, billet-moulded, project from a string-course of the same pattern, and on these descend the upper columns. The interior is vaulted with ribs that pass across and leave an open star at the centre (Fig. 6): this same motive Street¹ noted at Salamanca in a cloister



FIGURE 6.—TORRES: DOME AND VAULTING.

chapel and I at Las Huelgas de Burgos. It is Mudejar.² The ribs come down on the shafts just named, at the corners, and on corbels, fluted like those without, in the middle of each side. The nearest thing that I know to these, is the corbelling at the chapel in the garden at Celanova, where also Moorish slaves were probably employed. The Mozarabic quarter at Calatayud may have supplied the workmen here. In the vault are eight tiny windows of pierced stone, crowned with Mudejar cusping like much at Toledo, and by tabernacles, "heavenly Jerusalems," like those of the school of Chartres: these also occur on the church of D. Alfonso's bequest to the Templars at Sangüesa. Where the curve of the dome and the wall outside meet, the window is pierced.

¹ Street, *Gothic Architecture in Spain*, II, 103.

² Just such another adorns the church of S. Miguel at Almazán near Soria. Cf. Rabal, *Soria in España, sus Monumentos y Artes*, p. 388, plate.

At the entrance to the sanctuary (Fig. 7), where under a pointed arch a narrow section of pointed barrel vault precedes the semi-dome, stand two columns with well-moulded bases and storied capitals: on the north side the Deposition, Nicodemus withdrawing a nail from the hand of Christ (Fig. 8),¹ on the south the empty Sepulchre left after the Resurrection, with the winding-sheet trailing out, as at Arles.

The vaulting capitals are derived from Byzantine, Roman, Oriental, and common Romanesque sources, those of the apse from Parma and Provence. Master Benedetto's Baptistry at Parma, begun in 1196, by its rising walls may have influenced the structure. At Estella, back on the same road, the church of S. Sepulchre has a lintel carving of the Last Supper which belongs with the Parma-Modena-Pistoia group: there pilgrims had passed, and passed on what they

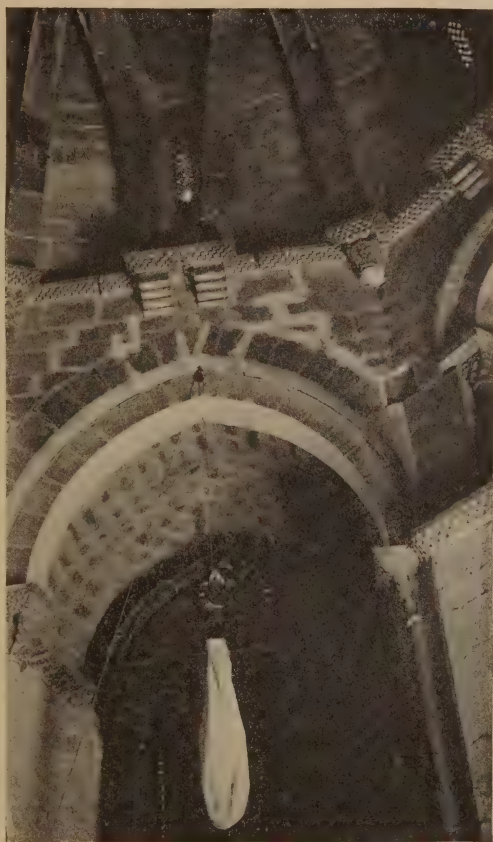


FIGURE 7—TORRES: SANCTUARY ARCH.

saw. The windows pierced at the point where a plane surface is tangential to a curved surface, can be matched only in two places that I know, in the square-faced apses of S. Cruz² de la Seros, near Jaca, in Aragon, and in those of the Terra di Bari.

¹ For the discussion of this rare motive *v.* A. Kingsley Porter, *A. J. A.* XIX, 1915, p. 148, note 1.

² Street, *l. c.* II, 173.

Jaca lies on the Camino Frances and S. Cruz is in the direct path of messengers passing between S. Juan de la Peña and Italy. It is likely then that this device comes with the Jerusalem pilgrims, since it is found only on their road. Between

the Order in Spain and the Order in Palestine, travel would be frequent.

III

S. Martin de Unx is a town in Navarre, due east from Tafalla, on the way to the pilgrimage church of Ujué. A good motor road runs all the way from the railroad to the shrine, passing through S. Martin, but this church, which is the *parroquia*, occupies the *arx*, the crest of the hill, and apparently no tourist has cared to climb the steep and stony streets of the little city. The place was walled once with an upper and a lower gate.¹ The parish church *de arriba* (as at Lerida, there is



FIGURE 8.—TORRES: CAPITAL, THE DEPOSITION.

another *de abajo*) was once, probably, all fortified, and still keeps a stern, rather narrow western tower against the nave. It is entered beneath this tower by a square porch with fine square ribs in quadripartite vaulting, and a twelfth century door with two shafts in each jamb. A curious tangled pattern is set above the jambs proper; above the shafts one capital on

¹*Diccionario Geografico-Historico*, II, pp. 298-299.

the north shows leaves, and the other S. Martin and the beggar; those on the south, Samson tearing the lion, and a man fighting two demon-monsters with his sword.

Inside, it has nave and aisles of four bays, a strong high pointed barrel vault at the centre, then a drop to the sanctuary, with a small window deeply splayed in the bit of eastern wall, a round barrel-vaulted sanctuary, and shallow semi-dome. The capitals are enormous and rather barbarous, overlaid so thickly, some with small leaves and others with curled tadpoles, that the effect is Churriguresque. The south aisle is groined and has a small pointed door at the west; the north aisle is of the sixteenth century for three bays, and then ribbed, quadripartite, with a sacristy of the same construction beyond. The east ends of the aisles are square, without apses; this is probably due to the steep fall of the ground without. The piers are oblong north and south, very heavy, the arches mostly round, although the western one is pointed. As usual in Spanish parochial churches, there is no transept.

In the floor of the sanctuary, just before the pulpit, a trap-door reveals a good stone winding stair that descends into a crypt. The capitals are cruder than those above, also less regional; some show leaf-tips, some human or lion's heads, with small bodies. There are three aisles of four bays, and the eastern corners are curved to follow the curve of the apse, and had windows, of which the northern is built up within, and I think blocked by the hill-side without. The vault is groined, all arches are round. What the crypt recalls is not, of course, the *confessio* of Italian and Catalan churches (for instance Verona, Modena, Barcelona, Vallbona de las Monjas) but such French building as S. Germain of Auxerre and S. Eutrope of Saintes.

The same style, in vaults, capitals, and sculpture, I saw in the older parts of the church at Aybar, revealed almost miraculously by a fire only a few years ago. Now from Sangüesa Aybar lies only an hour away behind a good horse, but the architecture is incredibly unlike. These two hill-top churches preserve the unmodified Spanish of the twelfth century, that on the river,¹ what the pilgrims brought.

GEORGIANA GODDARD KING.

BRYN MAWR, PENNSYLVANIA,
January, 1918.

¹ Sangüesa was discussed in part in *A.J.A.* XIX, 1915, pp. 259-262.

THREE FRENCH GOTHIC TAPESTRIES HITHERTO
KNOWN AS THE "BAILLÉE DES ROSES"

[PLATE VI]

INCLUDED in the collection of tapestries in the Metropolitan Museum are three of unusual interest and beauty, well known to collectors and scholars and even to the general public. They have been reproduced many a time, they have been discussed and described in many books and periodicals, and in each publication looked upon as being among the most important specimens tapestry weaving has ever produced. Considering the vast amount of curiosity aroused by these tapestries and the place they already occupy in literature it would seem that nothing could be added to their history. This, however, is not the case, and if I take the opportunity to discuss them again in these pages it is simply because I desire to call attention to some historical facts which will throw a new light on their meaning and abolish the name "Baillée des Roses" by which they are now generally known in America. It seems essential first to pass in review the most important opinions expressed concerning them since the day they became known to the public.

It was at the exhibition of the French Primitives in Paris in 1904 that they first aroused universal admiration and recognition. They then belonged to the collection of M. Sigismund Bardac and were lent by him to the Louvre where among many masterpieces they retained their place of honor. Henri Bouchot, the noted French authority on the subject, devoted to them a careful study and was the first to detect their close relationship to the works of Fouquet. In fact he even gives an undeniable proof of this relationship in associating them with Fouquet's famous miniature which represents the court trial of the Duke of Alençon, presided over by Charles VII himself.¹ Later in the discussion we shall have occasion to return to this miniature. Bouchot, however, merely pointed out the likeness and went no further;

¹ Henri Bouchot, *Exposition des Primitifs Français*, Paris, 1904, pl. XXIX.

he did not mention the significance of the background represented and did not arrive at any definite conclusion concerning the tapestries themselves. Other French critics writing at about the same time and even later were less explicit. Among them is Georges Lafenêtre who treats the subject in his article in the *Gazette des Beaux Arts*¹ and again in his book on French Primitives.² All he tries to do is to bring out the artistic qualities displayed in these tapestries. Jules Guiffrey, one of the writers best informed on the subject of tapestries, classes them in the series of the "Conversations Galantes" and considers that their principal interest consists in the exact information they give us on the costumes of the time. He makes no attempt to interpret the background but merely criticises the strangeness of the vertical lines, adding: "Nos tapisseries ne reculaient devant aucune audace."³ I shall come back to this particular background and explain its real meaning, as it forms the principal object of this study.

When in 1909 The Metropolitan Museum of Art acquired the tapestries in question, there appeared in the *Bulletin*⁴ an article about them discussing at length their subject and artistic value. Among other comments the *Bulletin* says:

"The hangings picture for us an interesting custom of the period of Charles VII, when Agnès Sorel was in favor, a custom described by Larousse in the *Grand dictionnaire universel* as follows: 'The *Baillée des roses* was an *hommage* which the peers of France owed until about the end of the sixteenth century to the Parlement and consisted in themselves presenting roses in April, May, and June when they called the roll. Foreign princes, cardinals, princes of the blood, children of France whose peerages are found in the jurisdiction of the Parlement owed this *hommage*. This is the manner in which it was rendered: they chose a day when there was an audience in the great chamber and the peer who was presenting the *baillée* had all the chambers of the Parlement hung with flowers and sweet smelling herbs before the audience. He gave a splendid breakfast to the presidents, councillors, clerks and henchmen of the court, then he came into each chamber, having borne before him a great silver basin filled

¹ *Gaz. B.-A.* XXXI, 1904, pp. 461-462.

² Georges Lafenêtre, *L'exposition des Primitifs Français*, 1904, p. 24.

³ Jules Guiffrey, *Les tapisseries du XII^e à la fin du XVI^e siècle*, p. 73.

⁴ *B. Metr. Mus.*, September, 1909.



FIGURE 1.—FRENCH GOTHIC TAPESTRY: METROPOLITAN MUSEUM.

not only with bouquets of pinks, roses, and other flowers, either natural or made of silk, as many as there were officers, but also with as many crowns enhanced with his arms. After this *homage* he held audience in the great chamber, then the mass was said, the hautboys played and continued to play before the presi-

dent during dinner. There was no subaltern officer down to him who wrote the register who did not receive his due of roses. The origin of this custom is unknown, but it existed not only at the Parlement of Paris but also at all the other Parlements of the kingdom, especially that of Toulouse.”

Before entering into any discussion concerning the paragraph cited above it is interesting to note that there appeared simultaneously two publications in New York, reproducing with some enlargements and comments the account in the Metropolitan Museum *Bulletin* which, as we shall see, has no relation to the subject of the tapestries.

Mr. George Leland Hunter in his book on tapestries reproduces the hangings in question.¹ After explaining the custom of the Baillée des Roses he adds: “The tapestries before us picture this Baillée des Roses most quaintly. On wide vertical bands of green, white, and red, strewn with rose foliage and flowers, appear ladies and gentlemen in XV century costumes of great variety and interest.”

Another writer, Helen Churchill Candee, says:² “The tapestries represent a custom of France in the time when Charles VII . . . had as his favourite the fascinating Agnes Sorel. During the late spring when roses of France are in fullest flower, various peers of France had as political duty to present to each member of the Parlement a rose when the members answered in response to roll call. The greatest chamber where the body met was for the occasion transformed into a bower; vines and sprays of roses covered all the grim walls, as the straying vines in the tapestry reveal. . . . Our tapestries show the figures of ladies and gentlemen present at this pretty ceremony.”

I do not know what were the sources upon which Mrs. Candee based her conclusions that “vines and sprays of roses covered all the grim walls, as the straying vines in the tapestry reveal,” or that “our tapestries show the figures of ladies and gentlemen present at this pretty ceremony.” Probably these are her own deductions. It is interesting to notice that both Mrs. Candee and Mr. Hunter seem to have accepted the explanation of the subject given in the *Bulletin* of the Metropolitan Museum without any critical examination as to its validity. Be-

¹ George Leland Hunter, *Tapestries, their Origin, History and Renaissance*, 1912, p. 376.

² Helen Churchill Candee, *The Tapestry Book*, 1912, p. 42.

fore them the Metropolitan Museum received the short statement accompanying the tapestries when they came from Paris, without questioning it, although in none of the criticisms which appeared in Paris was the custom of Baillée des Roses mentioned in connection with these hangings. It is true that none of the French



FIGURE 2.—FRENCH GOTHIC TAPESTRY: METROPOLITAN MUSEUM.

writers brought out the real meaning of the background of the tapestries which, as we shall see, adds much to an understanding of them, but these writers, if they contributed little to the interpretation of the background, at least did not commit the error of imputing to the tapestries a meaning they never had.

In the first place it must be noted that the *Baillée des Roses* has no special connection with the time of Charles VII. According to both Larousse's *Grand dictionnaire universel* and the *Grande Encyclopédie* it was an homage which, until about the end of the sixteenth century, the peers of France owed to the *Parlement*, and A. Chérue! in his *Dictionnaire historique des institutions . . . de la France*¹ speaks of it as one of the feudal dues: "The Peers of France offered roses to the Parlement of Paris in April, May, and June. The Parlement which represented the King, received this homage as sign of its suzerainty." It is probable that the *Baillée des Roses* became a custom when the *Parlement* of Paris was independently and definitely constituted, which occurred about 1328, although it may already have been known before that time.

In the next place this feudal ceremony has nothing to do with the tapestries themselves. What they represent is not the custom of the *Parlements* of France known as the *Baillée des Roses* but simply ladies and gentlemen of the court displayed against a background which shows the personal emblems of Charles VII.

We know that the colors of Charles VII were red, white, and green. In the "Comptes de L'Argenterie du Roi" we read a convincing proof of this: ". . . Pour une ceinture de broderie faite de fil d'or de Fleurance et de Soye Rouge, Blanche et Vert, en manière d'une terrasse de laquelle sault (s'élève) une fleur de Marguerite pour servir à mettre autour d'un chaperon couvert de velours gris"; and ". . . à Monseigneur Charles fils du Roi pour une chaisne d'or faite à chaînon d'or esmaillé aux couleurs et devises du Roy, c'est à savoir Rouge, Blanc et Vert. . . ." ²

As for the rose-bush, it also was a personal emblem of Charles VII. We learn this from records of the time and we see the rose bush on medals of his reign. An account of royal New Year gifts in 1454 reads: ". . . À Gilbert Jehan, orfèvre du roi, notre sire, pour quatre marcs, trois gros et vingt karats, mis et employiez en menues estrennes d'or faictes en façon d'un rosier, lesquelles le dit seigneur a données, audit premier jour de l'an à plusieurs de ses officiers. . . ." ³ In another account of 1458 we read: "Pour

¹ A. Chérue!, *Dictionnaire historique des institutions . . . de la France*, 1884, s. v., *Redevances féodales*.

² Auguste Jal, *Dictionnaire critique de biographie et d'histoire*, 1867, p. 437.

³ Vallet de Viriville, 'Médaille frappée à la monnaie sous Charles VII en souvenir de l'expulsion des Anglais en 1451 et années suivantes,' *Annuaire de la Société française de numismatique*, 1867, p. 224.

18 aulnes de drap vert et 6 aulnes $\frac{3}{4}$ de fin blanchet qui est de l'un et de l'autre 24 aulnes $\frac{3}{4}$, delivré à Jean Cochet, brodeur et varlet de chambre du roy, pour faire tailler et asseoir à bordeure, sur chacune des manches desdites robes, un escot à branches garnies de feuilles de rosier, à la devise accoutumée du roy, notre sire, (pour les robes distribuées à 99 menus officiers de l'hôtel). . . ."¹ On medals made to commemorate the expulsion of the English from France we see the emblem of the rose-bush repeated several times.²

In addition to these convincing facts there is also the one pointed out by Bouchot, in regard to Fouquet's miniature, mentioned above. It is interesting to recall in a few words the history of this painting. In 1458 the Vicar of Haubervilliers near St. Denis finished for Étienne Chevalier, treasurer of Charles VII, the philosophical dissertation, "Le cas des nobles malheureux," by Boccaccio. Jean Fouquet was engaged to illuminate it. At this time the famous trial of Jean duc d'Alençon, was taking place in the Château de St. Georges in Vendôme.³ Fouquet had the ingenious idea of using a representation of this for a frontispiece. He shows us the Hall of the Bed of Justice where the trial occurs. Charles VII presides. The hangings of the hall have a background identical with the one in the Museum tapestries. The colors of the King, red, white, and green, are alternately repeated and his emblem, the rose-bush, is strewn on this surface. Instead, however, of the ladies and gentlemen seen in our tapestries, there are on each side the arms of France supported by two white stags with golden crowns around their necks.⁴

The miniature was made in 1458. Our tapestries were probably made a few years earlier, before the middle of the fifteenth century. The same background with the personal colors and emblem of Charles VII occurs in both. Evidently both sets of tapestries were made by order of the King, and quite possibly the

¹ Vallet de Viriville, 'Médaille frappée à la monnaie sous Charles VII en souvenir de l'expulsion des Anglais en 1451 et années suivantes,' *Annuaire de la Société française de numismatique*, p. 225, note 1, and Jal, *op. cit.* p. 492.

² *Annuaire de la Société française de numismatique*, 1867, pl. XII, fig. 1A; p. 215, pl. XIII, no. 2A; p. 216, pl. XIV, nos. 3 and 4; pl. XV, no. 6A; pl. XVI, no. 8B. See also F. Mazzerolle, *Les médailleurs français du XV au milieu du XVII siècle*, III, pl. I; and *Trésor de numismatique et de glyptique*, XIV, pl. II.

³ See concerning this trial: Curmer, *Oeuvre de Jean Fouquet*, II, p. 1, and Viriville in *Annuaire de la Société française de numismatique*, 1867, p. 225, note 1.

⁴ See for the explanation of the white stags: Curmer, *op. cit.* II, p. 7. The frontispiece is reproduced in the same book.

ones in the Museum for his favorite Agnès Sorel. This supposition is rendered plausible, first, by the background and, second, by the great resemblance of the lady in one of the tapestries (Plate VI) to the Virgin of Melun in the Antwerp Museum. This Virgin, as we know, was painted by Fouquet and is supposed to represent Agnès Sorel. These coincidences point to Fouquet as the designer of the cartoons for our tapestries. A close examination of the types represented seems to confirm this supposition for we see indeed a great similarity between them and the figures in several works of Fouquet, *e.g.*, in the Book of Hours of Étienne Chevalier and in the frontispiece before mentioned. Bouchot, as we have already pointed out, noticed in these tapestries a likeness to Fouquet's work, but thought the drawing inferior to his. However, as he himself says, "Might not this be the fault of the weavers?" With the explanation here given of the background I have additional evidence that the tapestries were made after Fouquet and that they were most probably ordered by Charles VII for Agnès Sorel.

Though I have emphasized their historical value, which is clearly of great importance, their artistic qualities are none the less remarkable. They are of the best period of French weaving when the Gothic decorative qualities were at their height. They belong to a series known as "Conversations Galantes" and are probably fragments of a greater ensemble. Backgrounds composed of long three-colored stripes strewn with flowers are known to have been represented in other tapestries of the fifteenth century. Among them were tapestries with the arms of Charles de Bourbon, as is shown by a drawing in the Portfolio de Gaignières.¹ These tapestries, however, showed the colors sometimes adopted by members of the royal family which were red, white, and blue,² instead of the personal colors of Charles VII which were red, white, and green. Several miniatures of the fifteenth century also show similarly decorated backgrounds.³ Later, as we know, the long multicolored stripes disappear and they are replaced by a uniform dark background strewn with

¹ *R. Art Anc. Mod.* 1913, p. 13. Article by Bertaux on the exhibition in the Hôtel Sagan in 1913.

² See Jal, *op. cit.* p. 437: "Couleurs du duc de Berry, dauphin de Viennois, régent du royaume (1419). Le duc de Berry portait les 3 couleurs qui composent aujourd'hui le Pavillon français, le Bleu, le Blanc et le Rouge."

³ See the Chronicles of England, France, Spain . . . by Sir John Froissart. Translation by Thomas Johnes. Vol. II, pp. 495, 602, 699.

various flowers and leaf-work, diversified by little birds and animals.

The costumes themselves are of the greatest interest. They are minutely and exactly portrayed. In a great number of other tapestries of the time with which it is interesting to compare our hangings, we can admire the same exactness. Those of the Berne Museum are the most important.¹ Nowhere, however, is there more charm and freshness than in the hangings we are reproducing, especially in the lady presumably representing Charles VII's favorite, the beautiful Agnès Sorel.

STELLA RUBINSTEIN.

NEW YORK, N. Y.

¹ Jubinal. *Les anciennes tapisseries historiées*, vol. II. Compare particularly pls. IV, VIII, and X.



FRENCH GOTHIC TAPESTRY: METROPOLITAN MUSEUM, NEW YORK.

NOTES ON THE SERVIAN WALL

[PLATE VII]

A.—A GATEWAY IN THE FORUM BOARIUM. *Ut magnam Herculis aram amplecteretur.* Tacitus, *Ann.* XII, 24

THE old controversy as to why the pomerium did not follow the Servian wall over the Aventine ought to be settled by Professor Merrill's simple answer that there was no *Servian* wall on the Aventine.¹ Indeed his arguments are valid even if by "Servian wall" we understand an actual stone rampart and not merely earthen breastworks. But if that old wall of the regal period was actually made of stone, as now seems likely, and if it did not encircle the Aventine but only the city of the four regions, there ought to be some trace of it between the Porta Capena and the Tiber. Indeed it is very likely that the famous blocks of "cappellaccio"—the dark gray, flaky tufa cut in low flat slabs—on the southwestern escarpment of the Palatine, and the two fragmentary walls of the same material that came to view above the "Scalae Caci" in 1907 belonged to such a city wall.

There was furthermore a gateway with a section of wall some forty meters south of S. Maria in Cosmedin which may have been a survival of this original Servian wall. In the *Notizie degli Scavi* of 1886 (p. 274) Lanciani gives a very brief description of it, which Borsari² repeated after the wall had been destroyed. It was *un grande arco costruito di grandi blocchi di tufo cinereo*, 3.30 meters wide (Lanciani); and Borsari thought that it was the Porta Trigemina of the Servian (Aventine) wall. The Trigemina it could hardly have been, for that gate continued in use, while the arch in question was built over with *opus reticulatum* in the late republic or early empire. It also was probably not a triumphal or honorary arch since its dimensions—just twelve Italic feet—would indicate a structure of the fourth century or earlier.³ By

¹ *Cl. Phil.* 1909, pp. 420 ff.

² *B. Com. Rom.* 1888, p. 21.

³ The *arco di grandi blocchi* discovered may of course be a rebuilding of an older gateway in better material but of the same dimensions.

the process of elimination it ought to be the gateway of an early city wall other than the Aventine rampart. The position serves excellently for the lower and last gate of our hypothetical wall of the "four regions," which in dropping from the Palatine would naturally swing somewhat southward to include the more important part of the Forum Boarium. This line also proves to coincide with the southern section of what Tacitus calls the Palatine pomerium, which, though it be an antiquarian vagary, was probably based in part upon some visible evidence of a wall. His interesting words are: *A foro boario ubi aereum tauri simulacrum aspicimus . . . sulcus designandi oppidi coeptus, ut magnam Herculis aram amplecteretur* (Ann. XII, 24). It is difficult to see what the "pomerium" is doing in that region if it is not following a wall a considerable distance away from the Palatine.¹

This ancient gateway, if such it was, apparently arched the old Via Ostiensis and was therefore not disturbed for centuries, though the new gateway of the Aventine wall, the Porta Trigemina, became the entrance to the city. In Augustus' day of course the embankment was regulated in this district, the docks enlarged below and above the Porta, and presumably the street was resurveyed to the new plans. Then the archway was abandoned and used for other purposes, as is proved by the reticulate masonry found about it.

Perhaps after the long succession of arguments presented by latterday skeptics it requires a word of explanation to justify one's still having faith in a Servian wall, that is to say, a wall of stone built before the Republic around the city of the four regions.

¹ Piganiol, *Mél. Arch. Hist.* 1909, p. 132, is inclined to identify the arch with the "Porta Minucia" mentioned only by Festus. Though his proposed line for the "Servian wall" seems impossible, there is a peculiar coincidence between Tacitus' reference to the *aereum tauri simulacrum* and the note in Livy (IV, 16, 2) that *Minucius bove aurato* (=gilded horns) *extra portam Trigeminam est donatus*. Senator Lanciani in answer to an appeal for additional information wrote me: "As far as I can remember the arch discovered Aug. 1886 on the borderline of the f. boarium was built of that kind of grey tufa the quarries of which have been since discovered in the vigna Querini" i.e. "cappellaccio," cf. *B. Com. Rom.* 1872, p. 6. If this be so, the arch ought to be dated before the Gallic fire. It is a pity that Delbrück did not discuss this structure in his general treatment of early arches (*Hellenistische Bauten*, II, pp. 60 ff.). It might have saved him from an untenable position. What a misfortune too, that no photograph or drawing was made of what seems to have been among the most interesting architectural fragments of Republican construction.

I am inclined to think that the best confutation of these arguments would consist in a week's open-minded observation in the museum of the Villa Giulia. That at least drives home the conviction that during the last dozen years we have failed to do justice to the power and splendor of the Rome of the sixth century B.C. Not only was Rome then mistress of a richer territory than any Etruscan city, but even many of her subject cities like Velitrae, Satricum, and Lanuvium possessed works of art that would have pleased the Athenians of that day. To be sure, the fifth century lost her much of this splendor, and the fourth century more than once threatened to annihilate her, but the sixth century city possessed both the wealth and the ability requisite for such a work. Veii, a less powerful city, had massive walls at that period as excavations are now proving, and Signia, a colony of Rome, was more strongly fortified than the most boastful page of Livy would claim for Rome. If Rome had not had a strong wall before the fifth century, then at least one must have been built, for then the Aequi and Volsci took half her domain and seized the strategic positions on the Alban hills whence they could march to the gates of Rome in a few hours. Veii too, with which there was a constant feud, lay only four hours distant. A strong wall was then essential to her existence.

The arguments that have carried the day for the skeptics are hardly valid. It was not a plausible procedure to belittle the sixth century city because the fourth century city was demonstrably weak. It was hardly worth constant repetition that the Gauls could not have taken Rome so rapidly if she had been fortified: we do not know the circumstances of the capture. Finally, the arguments of Pinza,¹ based upon a few relatively late tombs found inside the cincture of the walls, do not prove much. Indeed we do not actually know where the pomerium was, for recent excavations have revealed at least three diverse walls of different periods along a part of the Quirinal hill.² It may even be that after the expulsion of the Etruscans the Romans lost interest in an institution primarily foreign and temporarily disregarded it for strategic or economic reasons. It is not very likely that the military authorities who then had to adapt the fortifications of the city against new enemies and new methods of attack kept religiously to the line once drawn by an Etruscan

¹ Restated in *B. Com. Rom.* 1912, p. 85.

² *Not. Scav.* 1907, p. 505; Graffunder in *Pauly-Wissowa s. v. Rom*, 1026.

augur. We cannot even be sure that burial within the walls would be wholly avoided under such circumstances. There are accordingly no firm arguments against the tradition of a sixth or seventh century wall, whereas a consideration of political circumstances strongly supports it.

B.—THE ARCHES IN THE WALL. Τειχῶν ἐπισκευὴς ὡχύρουν καὶ μηχανήματα ἐφίστανον. Appian, *Bell. Civ.* I, 66.

The prominent section of the wall upon the Aventine¹ is full of curiosities that have enticed many to attempt interpretations. Most of the stone is of the yellow granular variety cut in large blocks that vary from 52 to 60 centimeters in height, and probably belong to the original Aventine wall. However, there was later a rebuilding in thin white mortar with an addition of some brown tufa blocks that are bossed in a late manner. The wall is partly set in and supported by concrete which dates from the time of the rebuilding, as is shown by the manner in which it fills the cavities beneath protruding blocks. The most striking peculiarity is the arch 3.55 m. (12 Roman feet) wide, and half as high, the sill of which was 34 feet above the foot of the wall when Middleton measured it. Platner does not think that the arch has anything to do with the wall, but Middleton's judgment is that it has "every sign of being contemporaneous with the rest of the wall." Middleton is probably right, for the same white lime seems to be used in both parts, the arch does not seem to break into the masonry of the wall, and, what seems to me conclusive, a peculiar fine brown tufa with greenish spots that I have found *in situ* in only one narrow stratum of Monte Verde occurs in all three parts mentioned, that is, in the arch and in the concrete, as well as in the main wall.

This characteristic tufa, if studied with care, may prove a valuable criterion for purposes of chronology. Without an opportunity to carry observations farther I can only give my present impression that it is usually found in buildings which date between 120 and 60 B.C. The use of the concrete without reticulate facing would indicate the same general period, while the concrete itself (large lumps thrown loosely into very friable mortar made, probably, from the gritty Tiber-sand nearby) answers to the description of pre-Sullan concretes given in Miss

¹ Illustrated in Platner, p. 113; Middleton, I, 140,—who saw a part of a second arch; Graffunder, *Klio*, 1911, p. 89.

Van Deman's analytical list.¹ All this agrees excellently with the statement of Appian under date of 87 B.C. that the senatorial party facing an attack upon the city by the forces of Cinna and Marius "fortified the city with trenches, *repaired the walls*, and *planted engines on them*" (*Bell. Civ.* I, 66). It may well be then that this fragment is a portion of the restoration to which Appian has reference, and furthermore that the arch was intended for the use of the artillery² to which he refers.

We know of two other arches at least which may have served the same purpose as the one on the Aventine. In the courtyard of the Palazzo Antonelli which opens upon the Piazza Magnanapoli there is also a portion of the "Servian wall" which contains an unexplained arch.³ Here, too, a wall of yellow granular tufa has been rebuilt with the aid of a stronger tufa, a stone of which I have not yet learned the source, but which resembles that of the inner walls of the Tabularium. This, then, like the Aventine arch, is a later addition to the wall, and the later stones show traces of bossing as do many of those on the Aventine. Unfortunately I did not have access to the concrete below the base which might settle the date of the reconstruction.

Finally Comm. Boni found the *disjecta membra* of an arch built into a late reconstruction of the wall near the railway station (*Not. Scav.* 1910, p. 499). Though the arch was destroyed and even the remains of it are now gone, yet from his incidental remark that these blocks were better preserved than the rest, from the measurements which he gives, and from the proximity to an important gateway, we may conclude that the arch probably resembled that of the Aventine in style, date, and purpose. Perhaps we are justified then in supposing that the repairs to which Appian refers consisted in reërecting fallen portions of the wall, replacing weak blocks with harder ones, buttressing thin spots with concrete, and on the flanks of gateways setting in engines of defence which were to be manipulated through arched openings. It may be in place to add the suggestion that the

¹Van Deman, *A.J.A.* 1912, p. 245.

²Parker, *Hills of Rome*, pl. XXI, says of this arch that "it is supposed to have served as an embrasure for a catapult." He does not refer to Appian and he supposes that the structure dates from Hannibalic days, which is of course impossible.

³See *B. Com. Rom.* 1876, p. 36; Jordan, I, p. 209; Graffunder, *Klio*, 1911, p. 101; Delbrück, *Hell. Bauten*, II, p. 60.

famous moat mentioned by Dionysius, which some excavators find, while others fail to do so, may in part be the work referred to by Appian in this passage.

C.—REPAIRS DURING THE CIVIL WARS. *Nihil absurdius; urbem tu relinquo!* Cicero, *ad. Att. VII*, 11, 3.

There followed a season of civil war when Rome could hardly have allowed weaknesses in the ramparts to remain for long. Sulla's return in 84 B.C. was surely anticipated; when Cicero forced Catiline out in 63 he doubtless took every effective measure to keep him out; and though we do not hear about it in our fragmentary reports, we may be sure that Pompey and the senate buttressed¹ every lax point before Caesar crossed the Rubicon—for, whatever Pompey's purpose may have been, the senators had no intention of abandoning the city until compelled. The astonishment of Cicero at Pompey's withdrawal indicates that the city was generally supposed to be defensible (*ad. Att. VII*, 11, 3). There is indeed a curious piece of unexplained construction which I am prone to attribute to this very time. It is opposite the railway station near the Via Volturno and was hastily described in the *B. Com. Rom.* 1876, p. 171, and somewhat inaccurately sketched on Plate XVIII of the same number (upper left-hand corner).² Referring to the fragment marked C¹, Lanciani reports that the *opus quadratum* served as a support for a wall of reticulate work, whose purpose, however, he does not discuss. Indeed that concrete wall with its reticulate backing and stone front (Lanciani found about another meter of tufa blocks) measured at least 17 feet through, a wall that could not be used for any building imaginable in this region at the time this wall was made. Apparently the whole structure is a tower or a portion of a strongly reënforced wall of the main ramparts. What we actually have is this: the usual wall of granular yellow tufa 2.40 m. thick, then a *vacant space* of 0.80–0.90 m., then a *concrete wall* 3.80 m. thick, lined on the outside with a row of large tufa blocks which, as said above, continued at least one meter farther out when first found.

The mortár is of the gray unclean kind that is usually found

¹ City walls were rebuilt throughout Italy about this time, cf. *C. I. L.* X, 6238–9, 6242, 291, 937; IX, 2171, 2235.

² In fact the earlier plan (pl. III), though less complete, is more accurate for this portion.

before good pozzolanas were used, that is to say, in the Republic; while the use of the reticulate work—probably introduced by Pompey's architects—gives us a date *post quem*. Though the cubes (10–13 cm.) are larger than is usual in fine work of this period it may well be that considerations of haste adequately account for this fact. At any rate it is difficult to find a period after Philippi when such massive defences could have been needed. We probably have here a tower built at a weak spot of the wall near the Viminal gate in the year 50 B.C. against Caesar's coming. Or perhaps work of this kind extended all the way along that very critical portion between the Colline and Viminal gateways, for Lanciani's first plan (*l.c.* pl. III) reveals several fragments of unusually thick wall which do not seem to appear on the later Plate XVIII. Of course the towers of mixed construction nearer the Viminal gate are also of relatively late work and may possibly date in the main from this same period, but that difficult problem must be left to the specialist. The data for its complete solution are not yet at hand.

D.—ON THE SOURCE OF BUILDING MATERIALS. *Sunt aliae molles lapidicinae uti . . . Rubrae, Pallenses, Fidenates, etc.*
 Vitruvius, II, 7

The most prominent parts of the Servian wall, as we have it, consist of large blocks of yellowish granular tufa which archaeologists persist in reporting from the quarries of the Aventine.¹ The larger blocks of the Palatine walls consist partly of this and partly of a similar tufa permeated with black scoria, both of which Jordan (I, p. 172) reports from the Palatine itself. Delbrück (*Hell. Bauten*, II, p. 56) has similar statements. Many a vacation ramble about these hills failed to reveal either kind in the native strata; in fact neither variety, though accredited to the earliest structures, appeared anywhere in or immediately near Rome. This circumstance seemed so significant for the early history of Rome that I referred my queries to Comm. Verri, the acknowledged authority on Latian geology, who immediately identified my samples of yellow granular tufa as being native to the region of Grottosecura² beyond Prima Porta, and those containing scoria as coming from the Fidenae-Grottarossa quarries. It seems, indeed, that these materials, far from being a native

¹ See, e.g. Graffunder, *Klio*, 1911, p. 91.

² He implies as much in *Boll. Soc. Geol. Ital.* 1911, p. 271.

stone, have no connection whatever with the products of the Alban volcanos but belong to the tufas of the Sabatini craters. Later excursions disclosed the traces of ancient quarries up the Tiber both below and above Prima Porta, a most interesting grotto lying some two hundred yards north of the third kilometer stone beyond Prima Porta on the Tiber road. From this region, it seems, came the millions of cubic feet of stone for the "Servian wall" that was built with large blocks.

Now it is very strange that the Romans, neglecting those solid strata of strong tufa on the Capitoline, the Palatine, the Aventine, Monte Verde, and the banks of the Anio, went several miles up the Tiber for this mediocre material. No less interesting is the fact that the territory from which this material came belonged to Veii until the fourth century B.C. Surely these circumstances have some significance in determining the date of these old walls. The first impulse was of course to attribute the walls to the Etruscan princes who may have had the closest relations with Veii, and to cite in corroboration the famous "stele" of the Forum which consists of the very same Etruscan stone and bears an inscription that belongs approximately to the sixth century. But this solution is excluded by the masons' marks upon the blocks, which are assigned by the best paleographers to a later date, not to mention the fact that in one spot at least the blocks lie over a fourth century grave.¹ The fifth century is excluded by the provenance of the stone. For considering the hostility of the Etruscans and of the Veians in particular between the regal period and the fall of Veii, considering also the state of Rome's public finances during that century, it hardly seems possible that Rome could have bargained for a thousand barges of cut stone for her defences during that period. This forces us to the conclusion that *the whole cincture of opus quadratum of two-foot blocks was built after the Gallic fire*, presumably during the period to which Livy (VII, 20, 9)² attributes extensive repairs.

¹ Boni, *Not. Scav.* 1910, pp. 500 ff.

² The famous old walls at the southwest corner of the Palatine, both the narrow exterior one which mounts to the very top and the two portions which run parallel to the Clivus Victoriae, probably date from this same period. The first mentioned consists entirely of the blocks which contain scoria, the other two portions are partly of scoriated stone, partly of the yellowish gray variety. It is very interesting to find that the earliest walls of Ostia, which are now generally dated in the late fourth century, also consist of this scoriated stone found near Fidenae. I may add that when Vitruvius (II, 7) speaks of

The source of the stone and the date of the work may suggest why the Romans went so far afield for the material.¹ If those walls were built soon after the fall of Veii it is apparent that Rome had then not only recently acquired the new region with its open quarries along the Tiber but also a large body of prisoners of war, many of whom presumably knew how this stone needed to be worked. Indeed it is not impossible that some of these very blocks were taken bodily from Fidenae's walls when that city was punished.²

In this connection I should like to stress the timeliness as well as the practicability of making systematic observations on the provenance of the early Roman building materials. The need is very great. Roman archaeology is as yet almost helpless before the problems of early construction, and good scholars still date foundations on the Palatine several centuries apart. This is of course largely due to the almost insuperable complications of the problems. The building materials are so numerous and so varied in texture that the criterion of tool-work cannot be applied as simply as, for instance, in Sicily. The tools had to be adapted to a variety of needs. Again, Rome lay at a point where technical methods of North, South, and East met, so that the attempt to apply criteria of style in a systematic fashion has failed for the early period.³ However, when he must face such serious complications, the archaeologist cannot afford to neglect any criterion that may be of service. At least he deserves not

(*lapidicinae*) *Fidenates* he probably does not refer to the quarries of scoriated tufa on the very site of Fidenae, for that miserable stone apparently went out of use long before the end of the republic. He seems rather to refer to the yellowish-gray tufa which was still quarried in the early empire, particularly for the making of light-weight concretes used in domes and vaults. Since Fidenae was the nearest municipality to these quarries, the name was sufficiently appropriate. Indeed I would suggest that we henceforth call this well-known yellow-gray tufa of the "Servian wall" "Fidenate."

¹ Comm. Verri suggests that the native reddish-brown stone was too full of arbitrary breaks to lend itself readily to the cutting of large blocks. However, the Romans seem to have used it freely for such work later, as for instance in the podia of the temples of Castor, of Concord, and of Divus Julius. Furthermore at the ancient quarries along the Anio there are still to be seen immense cliffs of the material without a single rift.

² See Macrobius, III, 9, 13.

³ *E.g.* Delbrück, *Der Apollotempel*. The wall which he dates 431 B.C. contains much stone which was not used before the second century. The correct date is probably 179 B.C. Cf. Livy, XL, 51, 3. I shall return to this problem later.

to be misled by the numerous misstatements about the provenance of materials which now occur in the handbooks of topography. From the practical side we need of course the fullest possible list of ancient quarries of Rome and its vicinity with a careful description of their products. Then since many of these have been hidden by later building operations, the study of Rome's subsoil should be made with the use of a good geological map. Fortunately such a one now exists¹ after the persistent work of a century.

Since this map, which will have a direct bearing upon many of our problems, is made for the geologist, employing petrological terms not generally used by archaeologists, it may be in place to give a very simple interpretation of its principal points by means of an outline sketch (PLATE VII). From this it will be evident that the successive strata of Rome's subsoil, so far as they are visible are these: (1) pre-volcanic clays and sands deposited in shallow water (example, clays at the foot of the Palatine behind S. Maria Antiqua); (2) the "lower tufas" formed from the earlier deposit of volcanic ash with a varying mixture of sandy alluvium (example, thirty feet of dark gray lamellar tufa, "cappellaccio," immediately above the clays behind S. Maria Antiqua); (3) the "lower pozzolana," the very valuable pozzolana which is generally dark red or dark violet with interstices of other ash (example, the pozzolana banks at the station of Salone, six miles east of the city. It does not appear where expected upon the Palatine, having been washed away before the next deposit was laid); (4) the "upper tufas," which usually appear as the solid cliff of reddish brown tufa in and about Rome (example, the thick stratum of reddish tufa on the Palatine, behind S. Teodoro); (5) Lacustrine deposits of shales and volcanic ash laid at the more recent eruptions when the site of Rome was a lake (found generally on all the hills).²

¹ A. Verri, *Carta Geologica di Roma*, 1915. The pamphlet contains 56 pages of notes and explanations. The maps of Latium in the old geological survey were largely based upon an erroneous theory. The map of the campagna in Sabatini, *Vulcano Laziale*, 1900, is useful in some respects but still vitiated by the same errors. A good article is Verri, 'Origine e Trasformazione della Campagna di Roma' in *Boll. Soc. Geol. Ital.* 1911, with bibliography.

² Besides these regular strata on the site of Rome, the student occasionally meets with some other familiar rocks. The poor travertines on the Aventine, and beyond the Pincian, which were used only for lime, were deposited by springs during the second period. The lava ridge, on which the Appian Way

Of the strata that appear at Rome, the *second* and the *fourth* were most important in the Republic, and for the early period especially the second; for while the reddish brown tufa appears in the middle reaches of both the Capitoline and the Palatine, the dark gray lamellar stone of the second happened to crop out at surface level just where the Forum meets the Capitoline. Here it was that the first quarry was started in this easily-worked stone, and hence came, apparently, the foundations of the early temples of the Forum as well as of the Capitoline temple.¹

Now we dare not assume that the second stratum invariably provides a usable tufa. Indeed its quality constantly varies. The very stratum which furnished the famous old quarry called *Lautumiae* under the Arx, whose quality may still be tested by the outcrop exposed at the Volcanal, runs out into a greenish marl in its southern course (see the cave behind Via della Consolazione, 70) and into a pebbly conglomerate immediately behind the new Monument on the north. However, the stratum could generally be counted upon to give a thickness of a few feet at least of the characteristic "cappellaccio"; and since the greater part of early Rome lay almost immediately upon this stratum, this fact is very significant. Indeed the burden of proof rests upon anyone who attributes any piece of wall which is not of this tufa, to the period preceding the Gallic fire. To be sure we have few direct reports of ancient quarries within the area. In addition to the *lautumiae*, Verri reports that builders have found numerous "cave" along the escarpment of the Quirinal,² and Lanciani found an abandoned quarry with "cappellaccio" blocks half cut near Porta San Lorenzo,³ where even today this stone is exposed to view in an escarpment of about 15 feet. One does not readily find it exposed inside the city of course, but if any one desires to be convinced of the frequent solidity of the "cappellaccio" escarpment in the second stratum, he may notice it outside the building-area at the top of the ridge near Ponte Salaria, or behind S. Agnese, or near the cemetery, or in the Scipionic

runs and which furnished Rome much of its *selce*, formed during the fifth period, as did the peperino of Marino and of Gabii. There are also the yellow granular and the scoriated tufas of the Sabatine system mentioned above, and the familiar travertine deposited by the hot springs below Tivoli.

¹ The fifth period again deposited a similar stone, but this later stratum was hardly deep enough upon the Capitoline to be of service.

² See 'Il Colle Quirinale' in *Boll. Soc. Geol. Ital.* 1908.

³ *B. Com. Rom.* 1872, p. 6.

tombs where it appears somewhat darker than usual. So much for visual demonstration; the borings reported by Verri in the volume quoted prove the same thing, namely that in the second stratum solid escarpments of dark gray lamellar tufa must have jutted out here and there along the edges of all the inner hills of Rome.

The relation of the Servian pomerium to the outcrop of this gray stone is also significant. All along the side of the Quirinal, over the Viminal and Esquiline, and back along the Caelian (disregarding the pozzolana, which was not lithoid) the wall passed over the gray tufas; while behind the Capitoline and the Palatine this stone was not far to seek. This seems to explain why those portions of the Servian wall which are demonstrably earliest are invariably made of the dark gray tufa in low blocks. *Very probably the whole wall of the regal period was made of this material.*¹

In comparing the technique used in this lamellar tufa with that of non-Roman construction it is well to keep in mind that it is a very strange stone, peculiar to Rome, and one that demands unconventional treatment. Since the strata did not always provide thick blocks, and since the stone flakes if the flat faces be exposed and crumbles if the edge lies upward exposed to rain, the mason was compelled to cut and lay it in flat slabs. Since the nature of the material so far determines the style *it is very unsafe to conclude from the technique of these dark gray walls whether or not the Romans yet knew the technique of the Greeks.*

Again it is very doubtful whether we can ascertain the dominant measure from these slabs, which indeed seem to run between 20 and 33 centimeters in height. The brown tufa blocks could be kept to a definite height since they had to be cut out completely. The flaky gray stone, on the other hand, with its horizontal cleavage was partly broken out in approximate sizes and dressed down to an average; but unless the mason was ready to sacrifice much good stone he would hardly dress all to a minimum level. Consequently, the courses are frequently uneven. It would be venturesome to try to determine from any fragment of wall now in existence whether the Italic or the Greek foot was used in the masonry of the dark gray tufa.²

¹ I do not hold, however, that every grey flat block now found in the Servian wall dates from the sixth century. Much of this stone was redressed and reset inside the *agger* after the Gallic fire.

² Viedebant, *Arch. Anz.* 1914, col. 75, suggests plausibly that the Etruscans and the early Romans may have used the Egyptian foot of 35 cm.

As we have seen, the yellow granular tufa from the Tiber displaced this poor stone for purposes of fortification after the Gallic fire. Even in the Forum the gray stone then fell out of favor except for underground work and at times when excavations into the stratum brought out a chance supply.

In the second century, however, the reddish brown tufa of the fourth stratum began to be used freely. Why the excellent deposit upon the Capitoline and Palatine hills had not been exploited early it is difficult to say, unless it be that by the time the gray stone fell into disfavor these hills were already too well occupied with buildings to permit the opening of new quarries there. The unusually thick stratum at Monte Verde was in use during the second century B.C., for the earliest concretes of Rome prove to contain some materials characteristic of this region.¹ It was also popular in the early part of the last century of the republic, and many of the areas of the Forum, *e.g.* the Lacus Curtius and the Republican pavements near the *lapis niger*, are undoubtedly laid with this stone. In the late republic and in the time of Augustus the *opus quadratum* shows few blocks that are demonstrably from Monte Verde. It seems that the Anio had by this time become a great highway for Travertine and Gabine rock (Strabo, V, 3, 11) and so when the contractors needed red and brown tufa they drew upon the cliffs along this stream. The maze of galleries of these *lapidicinae rubrae* (Vitruvius, II, 7) are still to be seen especially at Ponte di Cervara, a mile beyond Ponte Mammolo, and at the new bridge near Salone, where the stone is a very dark brown. These quarries, if I mistake not, are the source of the splendid blocks of the temple of Castor, the Basilica Aemilia, the new Rostra, the tufas of the Colosseum, and many other buildings. Today I find builders working over the rubbish heaps of those quarries picking over the fragments that were left by the ancient stone-cutters who dressed the massive blocks.

Of the other strata of stone little need be said. The *third* period supplied the excellent red and violet pozzolanas that are so much in demand today. On the hills nearest the Forum this ash was washed away before the eruptions of the fourth period,—a very thin sheet remaining at the north end of the Capitoline,—so that the Romans did not at once recognize its value. In the Empire, however, it was used extensively. The

¹*E.g.* the oldest concrete of the Temple of Concord.

fifth period supplied little but clay deposits. However, upon the Palatine there is a late deposit of ash which appears as a fairly good gray lamellar tufa, and this was apparently used near the *Scalae Caci* for very early foundations and cistern-linings.

The pre-volcanic deposit now provides the popular clays for brick making in the *pliocene* shales behind the Vatican and elsewhere. To judge from the texture of the ancient bricks and the evidence of the stamps these shales were little used by the Romans. They seem rather to have made their splendid bricks from the alluvium of the Anio and of the Tiber whence even today the finest red tile of Rome is manufactured.¹

These notes on the sources of materials are a mere beginning in a subject which cannot possibly be completed away from Rome, but I offer them as an introduction to others who may care to avoid the numerous false clews that have wasted me endless time. I am convinced that a study of the provenance of the stone will aid decidedly not only in clarifying the history of early Roman construction—and through that the history of early Roman art and culture—but also in defining much more precisely the chronology of the building operations of the last two centuries of the republic.

TENNEY FRANK.

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¹At Tor di Quinto, for instance.



GEOLOGICAL OUTLINE MAP OF ROME.
(After Verri.)

American School
of Classical Studies
at Athens

LATIN INSCRIPTIONS FROM CORINTH¹

I

TIBERIUS CLAUDIUS
DINIPPUS

1 (Fig. 1). Slab of bluish marble. Height 1.09 m. Width at top 0.505 m., at bottom 0.53 m. Thickness 0.10—0.17 m. Letters: height 0.048—0.04 m. Back of stone rough. Letters carelessly cut; cross bars to letters 'A' and 'H' lacking. Punctuation by dots between words. Stone considerably worn. Found in one of the early campaigns: exact place and date not recorded.

Transcription:

Ti(berio) Claudio
P(ublii) f(ilio)
Fab(ia tribu)
Dinippo
II vir(o) II vir(o)
quinq(uennali)
augur(i)
sacerdoti Victoriae

TIC LAVDIO PF FAB DINIPP C
II VIR II VIR QVINQV CVR
SACERDOTI VICTORIAE
BRITANN TRIB MILLE CVI
ANNONAE CVRATORI
ACONOTHE TENERONEON
CAE SAREON ET ISTHMION
ET CAE SAREON TRIBVLES
TRIBVS ATIAE

FIGURE 1.—LATIN INSCRIPTION FROM CORINTH:
No. 1.

¹ As Fellow of the American School at Athens during the year 1914–15 the author, with the approval of the Director, Mr. B. H. Hill, made a special American Journal of Archaeology, Second Series. Journal of the Archaeological Institute of America, Vol. XXII (1918), No. 2.

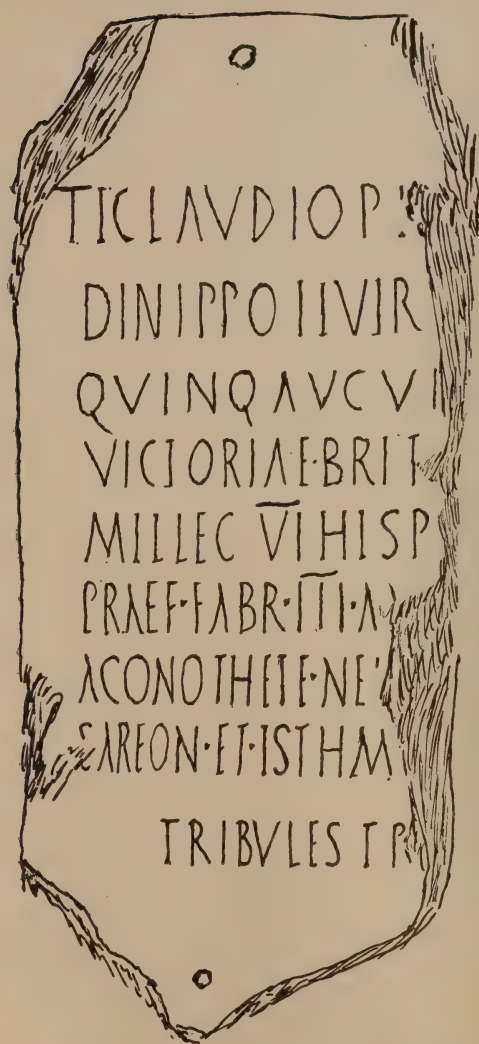


FIGURE 2.—LATIN INSCRIPTION FROM CORINTH:
No. 2.

Britann(icae) trib-
(uno) mil(itum)
leg(ionis) VI
annonae curatori
agonothet(a)e Nero-
neon
Caesareon et Isth-
mion
et Caesareon tribules
tribus Atiae

2 (Fig. 2). Marble slab. Height 0.885 m. Width 0.40 m. Left side original; right side broken away. Thickness 0.21 m. Letters: height 0.045—0.035 m. Face of stone worn, has been used as a door-sill. Back of stone very rough. Found, June 1915, in excavations southeast of the fountain of Pirene.

Transcription:

Ti(berio) Claudio
P(ublili) f(ilio)

Dinippo II vir(o) [II
vir(o)
quinq(uennali) au-
gur(i) [sacerdoti
Victoriae Brit(annicae)
[trib(uno)

study of the Latin inscriptions discovered during the excavations at Corinth. This paper is the first of a series in which these inscriptions will be published. Owing to the irregularity in communication with Greece at this time, the paper appears by authority of the late Chairman of the Managing Committee, Professor J. R. Wheeler, without previous submission to the Director.
—J. M. P.

*mil(itum) leg(ionis) VI Hisp(anae) . . .
 praef(ecto) fabr(um) III a[nnonae] curator
 agonothet(a)e Ne[roneon] Cae-
 sareon et Isthm[ion] et Caesareon
 tribules tr[ibus] Atiae (?)*

3 (Fig. 3). Marble block, broken at top and bottom. Height 0.55 m. Width, sides preserved, 0.50 m. Thickness 0.19 m. Letters: height 0.05—0.037 m. Face of stone worn. Found, June 1915, not far from No. 2.

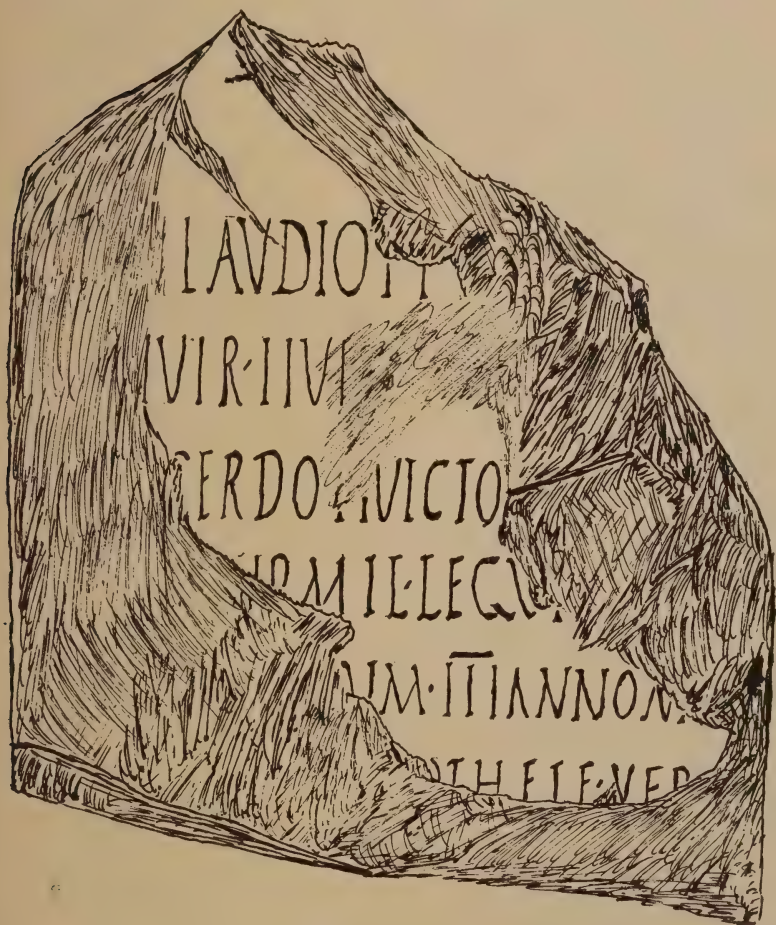
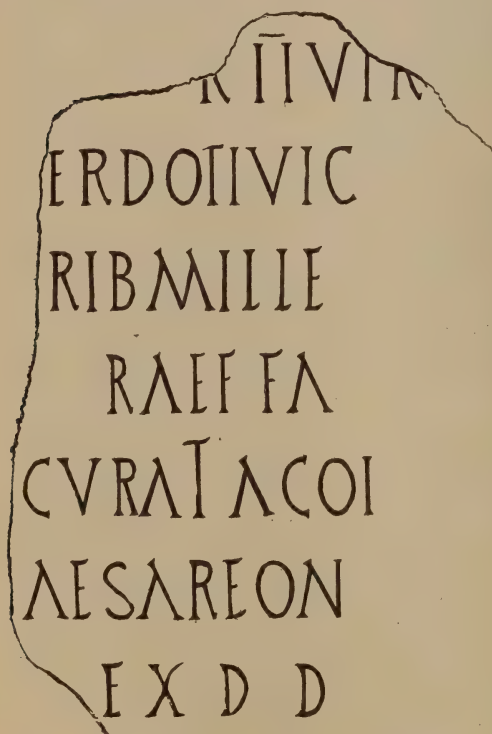


FIGURE 3.—LATIN INSCRIPTION FROM CORINTH: NO. 3.

Transcription:

Ti(berio) C]audio P(ublii) f(ilio) . . .
I]I vir(o) II vi[r(o)] . . .
sa] cerdoti Victo[ri]ae . . .
tr] i[b(uno) mil(itum) leg(ionis) VI . . .
fabr]um III annona[e] . . .
agon]o[thet(a)e Ner[oneon] . . .

4 (Fig. 4.) *C.I.L.* III, 539, Corinth. Upper portion gone. Present location unknown. Not seen at Corinth in 1915. Reproduced from Corpus.



Transcription:

. . . II vi[r(o)] II
vir(o)
sac]erdoti Vic[tor]iae
t]rib(uno) mil(itum)
le[g(ionis)]
p]raef(ecto) fa[br(um)]
annona[e] curat(ori)
agon[o]thet(a)e
C]aesareon
ex d(ecreto)
d(ecurionum)

There can be no doubt that this inscription refers also to Tiberius Claudius Dinippus. The arrangement of the offices is the same and one would be justified in restoring his name at the top. Furthermore, we are now in a position to correct the interpreta-

FIGURE 4.—LATIN INSCRIPTION FROM CORINTH:
C. I. L. III, 539.

tion, made by the editors of the Corpus, of the letters AGOI in line 6. This should be *ago(nothetae)* and not *ago(non)*.

COMMENTARY

The name Tiberius Claudius Dinippus is not otherwise known to us. Concerning the man who bore this name these inscriptions give us our only information. The cognomen Dinippus is clearly Greek in origin, but the man was a Roman citizen as his nomen and praenomen show, and in addition he belonged to the tribe Fabia. His father's name was Publius Claudius Dinippus (?). Tiberius Claudius Dinippus held two municipal offices, presumably at Corinth, *duumvir* and *duumvir quinquennalis*. The offices next recorded are of a priestly character, viz., augur, perhaps at Corinth, and priest of Victoria Britannica.

The only epigraphical evidence for the existence of a cult of Victoria Britannica has consisted of a stone found at Gigthis.¹ This African inscription, set up in the year 210 A.D., commemorated a victory of Septimius Severus in the wars which he carried on in Britain during the last three years of his reign (208–211 A.D.). Victoria Britannica is also found on the coins of the same emperor, Caracalla, and Geta.² The only literary mention of this cult of Victory is preserved in *Panegyricus* 5, 21,³ which was written about the year 297 A.D. The mention in the inscriptions from Corinth of Victoria Britannica provides the best information concerning their date. They could hardly have been set up before the year 210 A.D.

The next office recorded is a military one. Dinippus was tribune of the soldiers of the sixth legion. Fortunately we are not left to speculation over the name of the legion. Line 5 of inscription 2 has preserved the letters HISP. The legion, then, can be no other than a *legio VI Hispana*. The evidence which we have had thus far concerning this legion is so slight that a recent examination of it by a Belgian scholar, Sauveur,⁴ has led him to doubt very seriously the existence of such a legion.

In view of the importance of this matter to Roman military history, it will not be out of place to review once more the scanty information. Legionary tiles have been found in Pannonia⁵ and in Dacia⁶ containing the words LEG VI HIS and

¹ *C.I.L.* VIII, 11018.

² Cohen, IV, 2d ed., p. 76, no. 733, etc.

³ Baehrens, p. 148.

⁴ 'La Legio VI Victrix,' *La Musée Belge*, 1908, pp. 117–201.

⁵ *C.I.L.* III, 11852.

⁶ *C.I.L.* III, 8069.

LE VI H. Mommsen interpreted these as references to the *legio VI Victrix*, which was quartered in Spain during the first century after Christ, and which sent a detachment into Pannonia. Cagnat agrees substantially with this view. Nissen¹ and Ritterling² refer the titles to the *legio VI Victrix*, but they believe that they were made later when this legion was stationed in Germania Inferior. The difficulty with this explanation is that if the legion were in Germany one would scarcely expect to find it called *Hispana*. Sauveur points out the objections to these interpretations and concludes that the tiles were not made by soldiers of the *legio VI Victrix* at all. He believes that the tile containing only an H after the numeral VI may have been left in Pannonia by the soldiers of the *legio VI Herculia*, one of the legions formed by Diocletian; that the other tile bearing the letters HIS after the numeral VI was left behind by members of the *legio VII Gemina*, a legion enrolled and for a long time stationed in Spain; and that we should read VII instead of VI, for mistakes, he says, are not infrequent in giving the numbers of legions. An inscription³ found at Brescia, ancient Brixia, contains the letters LEG VI H. After the H the base of a letter is seen, and it seems to be the letter I. Sauveur admits that if the reading is sure then the existence of a *legio VI Hispana* is proved. But in the next sentence he reaffirms his conviction that the *legio VI Victrix* from Spain is referred to. The comment of Mommsen on the stone from Brescia shows that he thought it belonged to the same period to which he assigned the tiles, that is the *optima aetas*, as he described it judging from the style of the letters.

An inscription at Aquileia⁴ mentions a *legio IIIII Hispana*. Mommsen believed this was an error for the numeral VIIII, in other words a reference to the *legio IX Hispana*. Sauveur, from his failure to make any mention of the stone at Aquileia, probably agrees with the correction which Mommsen proposes. The reading on the stone at Corinth is in no way uncertain. We may regard the existence of a *legio VI Hispana* during the reign of Septimius Severus as proved.

¹ *Bonn. Jb.* 111-112, 1904, p. 84.

² *De Legione Romana X Gemina*, p. 76, n. 2.

³ *C.I.L.* V, 4381 = Pais, *Suppl.*, No. 677.

⁴ Pais, *Suppl.*, No. 165.

The new inscription from Corinth is, in addition, a confirmation of the correctness of the number of the legion as written on the stone from Aquileia. This agreement furnishes another reason for dating the Corinthian stone not earlier than the reign of Septimius Severus. It may very well be, also, that other references to the *legio VI Hispana* belong to this period. If so, this removes all the difficulty which scholars have felt in accounting for the presence of soldiers of this legion in Dacia and Pannonia.

Inscriptions 2, 3, and 4 mention a second military office, that of *praefectus fabrum*, which Dinippus held for three periods.

Subsequently Dinippus was made administrator of the supply of grain. It is not improbable that this office also was held in Corinth. Dinippus would have been called *praefectus annonae* had he been concerned with Rome's supply as late as the third century after Christ.

The last office is one that would be remembered by the Corinthians. Claudius provided the Isthmian games, and others which pass under the names Caesarian and Neronian-Caesarian, and which were doubtless celebrated in the stadium at the Isthmus. Expansion of the Greek games during the Roman Empire, and the continuation of the contests at the Isthmus are too well known to call for further comment here. Owing to the small number of inscriptions from Corinth and the Isthmus, few details about the games in the early centuries of our era have been brought to light. A Greek inscription¹ found in Corinth a few years ago contains some information on this point. It was set up in honor of Cn. Cornelius Pulcher and among the offices which he held was that of ἀγωνοθέτης Καισαρείων Ἰσθμίων. The inscription was cut during the reign of Hadrian. Another Greek inscription in honor of the same Cn. Cornelius Pulcher was erected at Troezen.² On this stone Cornelius is called ἀγωνοθέτης Καισαρῶν Νερονανῶν Τραιανῶν Σεβαστῶν Γερμανικῶν Δακῶν καὶ Ἰσθμίων καὶ Καισαρῶν the names following the same arrangement as in our No. 1 and also ἀγωνοθέτης Σεβαστείων καὶ Ἀσκληπείων. The first series of games was, of course, held at the Isthmus, the second probably at Epidauros.

Inscription 1 was set up by members of a tribe called Atia and this name probably appeared on Inscription 2. Inasmuch as no

¹ *I.G.* IV, 1600.

² *I.G.* IV, 795.

tribe of this name is known elsewhere we naturally look to other inscriptions from Corinth for further light on this matter. It may not be out of place, considering the importance of this new information on the history of Corinth, to anticipate certain inscriptions soon to be published. Several stones have been recovered during the excavations which were erected in the first instance by the members of certain tribes. There is a dedication to Marcus Agrippa made between the years 18 and 12 B.C. by the tribe Vinicia. The members of a tribe Agrippa, which evidently received its name, possibly in the principate of Augustus, from the man just mentioned, honored the priestess Callistratea. A tribe Aurelia and another, the name of which seems to be Maneia, are known. These are clearly local tribes. The tribe Atia is probably also one of the divisions of Corinth under Roman sway. It becomes evident that when the city was reestablished by Julius Caesar and Augustus the citizens of the *Colonia Laus Julia Corinthus* were organized on a tribal basis. The formation of tribes in the new *colonia* may have been due partly to the common practice in Greek cities. More probably their existence at Corinth was the result of the founder's wish. We know that tribes were established in a colony in Spain organized by Julius Caesar.¹ A colony founded by Augustus in Sicily, the *Colonia Augusta Lilybaeum*, had twelve tribes according to an inscription² found there, and another³ was erected by the members of the tribe Jupiter Augustus.

This leads us to consider the significance of the names given to the new tribes at Corinth. Atia is the name of Augustus' mother, the niece of Julius Caesar. Aurelia is the name of Julius Caesar's mother, and as Augustus was the son of Caesar by adoption, she may be called his grandmother. Agrippa was the son-in-law of Augustus. The name Vinicia is more difficult to account for, but it is probable that this tribe received its name from the intimate friend of Augustus, M. Vinicius.⁴ The origin of the name Maneia has not been explained. It is not without interest to compare the names of the Corinthian tribes with the

¹ See 'Lex Coloniae Iuliae Genetivae,' *Eph. Ep.* II, pp. 105-151, especially p. 125.

² *C.I.L.* X, 7233.

³ *C.I.L.* X, 7237.

⁴ *Suet. Aug.* 71.

names of the *curiae* in African towns.¹ Names which have been preserved are Aelia, Antonia, Antoniniana, Augusta, Aurelia, Caelestia, Commoda, Iovia, Iulia felix, Papiria, Sabina, Saturnia, Severiana, and Traiana. The tribes at Corinth possess names very closely connected with the family and friends of the first Princeps. Concerning the number of tribes at Corinth we have no information.

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HANOVER, N. H.

¹ *C.I.L.* VIII, Index, p. 1101.

ARCHAEOLOGICAL DISCUSSIONS¹

SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

WILLIAM N. BATES, *Editor*

220 St. Mark's Square, Philadelphia, Pa.

GENERAL AND MISCELLANEOUS

The Chronology of the Glacial Ages.—In *Z. Ethn.* XLVI, 1914, pp. 465-477, J. BAYER presents in tabular form, and discusses, the chronology of the diluvial glacial ages.

The Chronology of Prehistoric Man.—In *Z. Ethn.* XLVI, 1914, pp. 205-240 and 241-248, HANS MENZEL discusses, first, the geological development of the earlier post-glacial age in its connection with prehistoric man, and, second, the palaeontological data for the chronology of diluvial man.

Diluvial Art.—In *Z. Ethn.* XLVI, 1914, pp. 829-865 (71 figs.), F. WIEGERS treats of the development of diluvial art with special attention to the representation of the human figure.

Stone Cults.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 62-83, F. W. HASLUCK writes of Stone Cults and Venerated Stones in the Graeco-Turkish Area. The natural stones venerated are sometimes aeroliths, sometimes of fine or unusual material, sometimes naturally pierced. The worked stones are in some cases statues or reliefs, in others inscribed stones. Reverence for such stones still survives, but is not necessarily of long standing in a given instance, nor does it always persist for a long time. Examples of the various classes of stones are cited.

The Year's Work in Oriental Archaeology.—In *J.A.O.S.* XXXVII, 1917, pp. 348-354, S. B. LUCE gives a summary of the results of the excavations that have been carried on by the Metropolitan Museum, Harvard University and the Museum of Fine Arts in Boston, and the University Museum in Philadelphia during the past year, by Professor Borchardt at Tell el-Amarna before the war, and by the Germans in Assyria during the course of the war. There are also notes on discoveries in India, China, and Japan.

South Arabian Proper Names.—The proper names in the South Arabian inscriptions are of peculiar interest because of the light that they throw on early Semitic religion, and also because of their resemblance to proper names

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Dr. T. A. BUENGER, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Dr. JOHN SHAPLEY, Professor A. L. WHEELER and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after January 1, 1918.

For an explanation of the abbreviations, see pp. 99-100.

in the Old Testament, and to names of the Amorite period in Babylonia. A common peculiarity of these names is their designation of the deity as *Ab*, "father," *Akh*, "brother," and *Amm*, "uncle," in combination usually with the third person, singular, imperfect of the verb. In *S. Bibl. Arch.* XXXIX, 1917, pp. 99-112, 115-132, W. T. PILTER gives an alphabetic index to all the names that are found in *Corpus Inscriptionum Semiticarum*, V, as far as it is yet published.

The Chained God.—In *R. Arch.*, fifth series, V, 1917, pp. 147-151, MILOJE M. VASSITCH discusses the Serbian proverb "god with legs of wool, but arms of iron," and the Serbian family festival *Slava*, in connection with statuettes which represent a person, no doubt a god, either with his legs wrapped in a sort of bandage or with his extended arms weighted with chains, or both. Such prehistoric statuettes are found in various parts of the Balkan peninsula. Whether the Serbians brought the belief which is indicated by their proverb and their festival from their former habitat, or adopted it from the previous inhabitants of Serbia, is left in doubt.

Horns Ending in Balls on Celtic Representations of Horned Animals.—In *R. Arch.*, fifth series, V, 1917, pp. 124-146, W. DEONNA discusses the balls on the ends of the horns of certain Celtic representations of animals. These animals are the sacred bull, which symbolizes the sun. Balls likewise symbolize the sun, as do also horns. Numerous examples of the combination of several symbols for the same thing in one representation or figure are cited and classified. The curious bronze dodecahedrons of the Gallo-Roman period may have been used in divination or in a game of chance. In either case they may have a religious significance, and the knobs which adorn their angles are perhaps to be classed with the balls on the horns of the animals already discussed.

Thracian Archaeology.—In *R. Arch.*, fifth series, V, 1917, pp. 158-188 (5 figs.), GEORGES SEURE continues his discussion of unknown or little known Thracian monuments and inscriptions (see *A.J.A.* XXI, 1917, p. 206). At Jaouchan-tepe, probably the ancient Kabyle, many stones were found in 1911 or 1912, which belonged to a mausoleum. Two reliefs of equal width (0.31 m.) but unequal height (0.78 and 0.65 m.), representing a priest and a centurion, were at right and left of the doorway. The coffered ceiling was of stone, with rosettes, wreaths, clusters of grapes, and pine cones in the coffers. The Latin inscription reads: *C. Avilius Valens, ex (centurione?), vetranus, Satriae Marciae | [co]niuge sua bene merita, et sibi vi(v)us et sapiens tumulum | fecit.* The Greek inscription reads: Γ. 'Αούλιος Ού(ά)λης, ού(ε)τρανός . . . , ζῶν καὶ φρονῶ[ν] | τὸ μνημεῖον ἐαντῶ καὶ τῇ συμβίβῃ ἐαντοῦ Σατρία Μαρκία, | βιώτασα σεμνῶς ἔτη κέ | κα[τ]εσκεύασεν. The differences between the two may be due to the official character of the Latin inscription and the fact that only the Greek could be read by the people generally. The exact position and purpose of the individual stones and the linguistic and other peculiarities of the inscriptions are discussed in detail.

The Dictionnaire des Antiquités of Daremberg and Saglio.—In *R. Arch.*, fifth series, V, 1917, pp. 271-281 (portrait), is an appreciative notice by GEORGES LAFAYE of the completion of the great *Dictionnaire des Antiquités* projected by Charles Daremberg and finished by Edmond Saglio and his numerous coadjutors.

A Handbook of the Classical Collection of the Metropolitan Museum.—The Metropolitan Museum of New York has published a handbook of its classical collection compiled by Miss G. M. A. RICHTER. A brief sketch of the periods to which the various antiquities belong and the characteristics of the art of the time precede an account of the more important objects on exhibition. These are usually reproduced in the illustrations, so that the reader cannot fail to understand which are the most interesting of the Museum's possessions of a given period. The *Handbook* covers the ground from prehistoric Greek times to the Gallienic period of Roman art, or from about 3000 B.C. to 268 A.D. [*The Metropolitan Museum of Art. Handbook of the Classical Collection.* By GISELA M. A. RICHTER. New York, 1917, Metropolitan Museum. 276 pp.; 159 figs. 8vo.]

Seljouk Buildings at Konia.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 31-54 (6 pls.; 6 figs.), DOROTHY LAMB describes the Mosque of Sultan Alaeddin, the Energheh Mosque, and the Indjeh Minarelli Medresseh at Konia. Part of the façade of the first mentioned building, and also the mausoleum in it, are earlier than Alaeddin. Probably Kai Kaous built, or at least began, them. Mesopotamian influence is seen at Konia. In the design and structure of the Indjeh Minarelli Medresseh the influence of Armenian miniature painters appears. In an appendix (pp. 55-61; 3 figs.) the vaulting systems of Konia, with their peculiar pendentives, are described.

The Bektashi.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 84-124 (2 pls.; 3 maps), F. W. HASLUCK gives, with citation of authorities and with some description, a list of the Bektashi establishments in Asia Minor, Mesopotamia, Egypt, Constantinople, Turkey in Europe, Greece, Albania, and Austro-Hungary.

Rhythm in Byzantine Music.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 125-147, H. J. W. TILLYARD discusses the rhythmical symbols in written Byzantine music, passes in review the existing theories on the subject, gives rules of transcription from the "Round System," and illustrates his method by examples.

Cambodian Boats of the Eighth and Thirteenth Centuries.—In *R. Arch.*, fifth series, V, 1917, pp. 198-204 (9 figs.), GEORGE GROSLIER finds that the boats of the eighth and thirteenth centuries represented in Cambodian reliefs resemble the long, narrow boats of the present day, with elevated prow and stern. On one relief, from Angkor Thom, a broad vessel like a Chinese junk is represented. These were (and are) for use in deep water, the long boats, each hollowed from a single log, were (and are) used in the shallow streams.

The Cult of the Cross among the Buddhists.—In *R. Hist. Rel.* LXXV, 1917, pp. 1-52 (16 figs.), P. SAINTYVES discusses the cult of the cross among the Buddhists of China, Nepal and Tibet.

EGYPT

The Position of the Fragments of the Palermo Stone.—In *C. R. Acad. Insc.* 1917, pp. 107-115, SEYMOUR DE RICCI points out that the chief difficulty in determining the order of the years in the fragments of the "Palermo Stone" consists in the fact that these years were named for festivals, incidents, etc., and not designated by numbers. For the fifth dynasty the order has been determined with considerable certainty. He argues that the second and

third registers of the *verso* contained accounts of eight years each. The complete width of the stone was about 1.68 m. On the *recto* the second, third, fourth, and fifth registers contained records of 74, 91, 110, and 87 years respectively, beginning with Menes. What is known of the chronology of the reigns of the early kings from other sources confirms the positions given to the fragments by de Ricci.

The End of the Middle Egyptian Empire.—In the course of the year 1911, R. WEILL published in *J. Asiat.* a series of elaborate studies on the period of the Hyksos in Egypt and of their expulsion by a native Egyptian dynasty. In *J. Asiat.* IX, 1917, pp. 1-143, he gathers up all the new material on this subject, and replies to criticisms of his earlier articles, particularly those of E. Meyer in the last edition of his *Geschichte des Altertums*, in which Meyer maintains that the Hyksos were not foreign invaders, but a dynasty of kings of Lower Egypt who attracted numerous Asiatic mercenaries to their service.

The American Excavations at Kerma.—In *R. Arch.*, fifth series, V, 1917, pp. 265-270, is a résumé by EDOUARD NAVILLE of an article by George Reisner (*Z. Aeg. Sp. Alt.* 1915) on the American excavations at Kerma (see *A.J.A.* XVIII, 1914, p. 386; XX, 1916, p. 97). The theories of earlier visitors to the site are mentioned, and it is suggested that Professor Reisner's conclusions in regard to wholesale immolation of slaves at the tombs may need revision.

The Functions of the Pharaonic Vizier.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 923-975, GIULIO FARINA discusses the functions of the Pharaonic "vizier" at the time of the eighteenth dynasty, according to the inscription found in the tomb of Rechmiriê at Thebes.

The Settlement of a Lawsuit by a Deified King.—In *C. R. Acad. Insc.* 1917, pp. 157-165 (fig.), A. MORET discusses an inscription from Abydos now in the museum at Cairo, which refers to a lawsuit in the time of Ramses II. At the top of the stele is shown the boat of Ahmes I carried on the shoulders of eight priests. In front of it the plaintiff, Pasar, priest of Osiris, stands with raised arms. Below are nine lines of hieroglyphs, and in the lower right hand corner the figure of Mesmen, father of Pasar. Another inscription found at Sakkara in 1898 seems to refer to the same case. It appears that in the reign of Ahmes I a certain Nesha received from the king an estate which he bequeathed to his descendants stipulating that it should not be divided. In the reign of Ramses II, two hundred years later, the courts permitted the division; but Pasar, son of Mesmen, appealed the case to the statue of the deified Ahmes as it was being carried in procession and the statue by nodding confirmed his claim to the estate.

The Most Ancient Representation of the 'Ankh.—In *S. Bibl. Arch.* XXXIX, 1917, pp. 87-88 (fig.), G. JÉQUIER, calls attention to a pre-dynastic vase which depicts a man driving cattle, who holds in his right hand an object which is evidently the prototype of the 'ankh, or symbol of life, that is held by gods in later art. This object is not a weapon, nor a mirror, nor a string of sandals, nor a belt, nor a phallic sheath, which the 'ankh has been conjectured to be, but is a talisman of magic herbs which helps to control or to protect the animals.

Maspero's Contributions to the History of Egyptian Religion.—In *R. Hist. Rel.* LXXIV, 1916, pp. 264-310 (fig.), A. MORET summarizes Maspero's contributions to our knowledge of Egyptian religion beginning with a study of certain papyri in the Louvre published in 1871. He discusses them under the

headings, "La théorie magique de la tombe," "Les inscriptions des pyramides de Saqqarah," and "La mythologie et les cosmogonies."

The Ushebtis of the New York Historical Society.—The New York Historical Society has recently mounted and put on exhibition 130 Egyptian ushebtis. The oldest of them dates from the twelfth dynasty; but the collection is especially rich in specimens dating from the Early Empire, or about 1500–1250 B.C. The largest is of limestone twelve inches high, and with it is the small coffin with which it was deposited in the tomb. It dates from about 1390 B.C. Two of the figures (one of bronze) are represented grinding corn. There are four royal pieces, two of Mehit(em)weskheth, grandmother of Sheshonk I, and two of one of the queens named Kerome, of the twenty-second dynasty. A small wooden coffin of the twenty-fifth dynasty contained two ushebtis, a laborer and an overseer. They were embedded in pitch with an inscribed roll and a scarab between them, and had not been disturbed. The late ushebtis are typical specimens. (MRS. GRANT WILLIAMS, *Quarterly Bulletin* of the New York Historical Society, I, 1918, pp. 91–102; 10 figs.)

Land Reclamation and Irrigation.—The improvement of irrigation in Egypt by the clearing of drainage ditches during the reign of Augustus is discussed by W. L. WESTERMANN in *Cl. Phil.* XII, 1917, pp. 237–243, and dated in the prefecture of Aelius Gallus, probably in the years 27–26 B.C. The same writer (*ibid.* XII, 1917, pp. 426–430) agrees with Bouché-Leclercq in setting 270 B.C. as the probable date for the beginning of land reclamation in the Fayum under the Ptolemies Philadelphus and Euergetes I.

The Aramaic Papyri of Elephantine.—In *A. J. Theol.* XXI, 1917, pp. 411–452, M. SPRENGLING renders an important service to English-speaking students by gathering up all the material that has been published in regard to the Jewish Aramaic papyri of Elephantine, and giving a provisional translation of their contents. The elaborate notes render this article an admirable introduction to the whole literature of the subject.

BABYLONIA AND ASSYRIA

The Cult of Deified Kings.—In *Mus. J.* VIII, 1917, pp. 165–179 (2 figs.), S. L(ANGDON) points out that a considerable number of Sumerian hymns and liturgies to the deified kings of Babylonia have come down to modern times. Three long hymns to Dungi, the second king of the dynasty of Ur and the first to be deified, have been found among the tablets from Nippur. These kings seem to have been to a certain extent identified with Tammuz, the incarnation of productivity, who died and returned to earth annually; and one of the hymns to Dungi tells how he had come to banish the misfortunes which had befallen mankind since the flood put an end to the age of happiness. The hymn was probably sung while the king was still alive; after the overthrow of the dynasty his cult disappeared. The Sumerian liturgies from Nippur in the Museum seem to have been largely composed during the dynasty of Isin. A fine tablet of 160 lines almost all preserved contains a liturgy in six melodies of the cult of Ishme-Dagan. It is modeled after the standard liturgies to the great gods, especially to Innini, in which the services of the weeping mother are replaced by those of the deified king who is regarded as her son and consort. In the first melody of fifty lines it is related how Enlil had ordered the glory of Nippur and then became angry and sent desolation upon it; in the second the divine king appears lamenting human sorrows; in the third the fate of the city is

commented upon and the question asked how soon Enlil will become reconciled; in the fourth melody Ishme-Dagan again appears sorrowing with his people; in the fifth the king intercedes with the earth god; and in the sixth Enlil ends the sorrow of Nippur and sends Ishme-Dagan to bring joy to the people.

Emperor-Worship in Babylonia.—In *J. A. O. S.* XXXVII, 1917, pp. 360–380, S. A. B. MERCER shows that the determinative for “god” is prefixed to the names of old Babylonian kings, not only when they contain names of gods as elements in their composition, but also when they do not contain known divine names. There is some doubt, however, whether the latter class of names may not contain the name of a hitherto unknown deity. Sometimes the determinative for “god” is prefixed to the name of a living king, but more commonly it is used after the death of the monarch. The most that can be said of emperor-worship is that Babylonian kings during their lifetime were honored by being called *dingir* or *ilu*, which may mean no more than “lord” or “king”; and that they were the recipients of memorials and other signs of regard.

The Worship of Tammuz.—In *J. Bibl. Lit.* XXXVI, 1917, pp. 100–111, J. P. PETERS throws light upon the primitive meaning of the Tammuz-cult from personal observation of the climate of Babylonia. Properly speaking the Sumerian Tammuz-cult belonged to the month Tammuz, the fourth month, or June. When the rivers had embraced and covered the lands and were fertilizing it, then was the month of Tammuz, the true son of the great deep. But he was thought of first, not as vegetation being born, but being buried. He was the one placed in a box beneath the water, the grain buried beneath the ground, dead and to be lamented. The people of Babylonia at the present time plant their gardens of vegetables in the mud left behind as the waters recede. This is the origin of the Tammuz-gardens in the later ritual. Apparently from the earliest times the Tammuz who was lamented as dead was likewise rejoiced for as one who rose again, but this is not so clear, or at what interval the rejoicing occurred.

New Babylonian Material Concerning Creation and Paradise.—In *A. J. Theol.* XXI, 1917, pp. 571–597, G. A. BARTON gives a survey of previously known Babylonian accounts of creation, and then takes up the newer material recently discovered in the Nippur collection of the University of Pennsylvania, and attempts better translations. These tablets prove that at Nippur there existed in the third millennium B.C. a cycle of creation-myths. Still others, or more complete versions of them, may come to light any day. While the one discovered by Poebel seems to have been an earlier and briefer form of myths circulated in later centuries, the other two introduce us to ideas hitherto unknown to Babylonian scholars. They are genuine bits of Babylonian folklore.

A New Babylonian Account of the Creation of Man.—In the *Proceedings of the American Philosophical Society*, LVI, 1917, pp. 275–280, GEORGE A. BARTON publishes with brief comments a transliteration and translation of part of an account of the creation of man and the beginnings of agriculture and civilization. The text is on a tablet from Nippur, now in the University Museum at Philadelphia. A more elaborate publication will appear in a volume to be entitled *Miscellaneous Religious Texts*, which the writer is preparing for the University Museum.

A Tablet Relating to the Interpretation of Dreams.—In *Mus. J.* VIII, 1917, pp. 116–122 (2 figs.), S. L. (ANGDON) discusses a tablet of eighty-six lines in

almost perfect condition in the Museum of the University of Pennsylvania. It dates from the fifteenth century B.C. and is the earliest known Babylonian work on the interpretation of dreams. What will happen as a result of different kinds of dreams is specifically stated. It is clear from the tablet that the Babylonian diviners had already adopted most of the principles found in the later works of the same character in the library of Asurbanipal.

The Name Israel on an Old Babylonian Cylinder.—In *Rev. Assyr.* XIII, 1916, p. 6 (fig.), V. SCHEIL describes a cylinder-seal of the period of the first kings of the dynasty of Agade which bears the name of *Is-re-il*, son of *Riṣ-Zuni*. There is no difficulty in equating this with the Hebrew name Israel, inasmuch as the names Abraham, Ishmael, Jacob-el, and Joseph-el, have already been found among the Amorite settlers in Babylonia.

Tiglath-Pileser I and His Wars.—In *J.A.O.S.* XXXVII, 1917, pp. 169–185, A. T. OLMSTEAD endeavors, on the basis of a fresh study of the cuneiform sources, to interpret the wars of Tiglath-Pileser I in the light of the broader considerations of a political nature, and to study their topography. In the latter field he incorporates investigations made in connection with the Cornell Expedition, which in 1908 visited many of the sites here discussed.

PALESTINE AND SYRIA

The Ancient Hebrew Holy Days.—In *J.A.O.S.* XXXVII, 1917, pp. 209–223, K. KOHLER subjects the sacred seasons of ancient Israel to a fresh investigation. He concludes that in pre-prophetic times the Sabbaths coincided with the four phases of the moon, as in the ancient Babylonian hemerologies. The month was divided into four lunar weeks, each ending with the Sabbath; and these twenty-eight days were followed by two days of New Moon, making thirty days altogether. In the Decalogue of *Deut.* v and *Ex.* xx the Sabbath is first transformed from a lunar holy day into a day of Jehovah, and is made to come every seven days independently of the moon's phases. As late as *Deuteronomy* Passover was celebrated on "the New Moon of the Ripening Crops." The change from the New Moon to the Full Moon is first enacted in *Ezek.* 45:21. The name Feast of Tabernacles, or Feast of Booths, is not derived from the booths in which the people dwelt during harvest, but from the booths that the pilgrims constructed for themselves when they went up to the annual festival.

Origin of the Feast of Unleavened Bread.—In *A. J. Theol.* XXI, 1917, pp. 275–293, J. MORGENSTERN claims that *Maṣṣôth*, or Unleavened Bread, was originally a Canaanite agricultural festival in honor of Astarte and Tammuz. The unleavened cakes were the last remnants of the old harvest that must be ritually consumed before any of the new harvest could be eaten. Fasting and putting away of leaven served the same purpose of absolutely disposing of the old grain, before the first sheaf of new grain was reaped and offered to the deity, and the new crop was eaten. Similar ceremonies are found among primitive peoples in all parts of the world. The unleavened cakes themselves were a religious survival of the most primitive way of preparing bread.

The Origin of the Semitic Alphabet.—In *J.E.A.* III, 1916, pp. 1–16 (5 pls.) and 17–21, A. H. GARDINER and A. E. COWLEY make a fresh attempt to read the unknown characters found in the Egyptian Temple at Serābīt el-Khādīm in the Sinaitic Peninsula, which date from about 1500 B.C. Four

of these characters they conjecture are the Semitic letters *B'LT* and are to be read *ba'alat*, "goddess." On this basis they identify other characters, and read a dozen or more words. On this doubtful foundation they rebuild the old theory of the Egyptian origin of the Semitic alphabet, and regard these Sinaitic characters as "the long-sought proto-Semitic script." See also S. A. Cook, in *Pal. Ex. Fund*, XLIX, 1917, pp. 190-192.

ASIA MINOR

Some Problems of the Troad.—In B.S.A. XXI, sessions 1914-1915; 1915-1916, pp. 16-30, WALTER LEAF fixes the site of Palaiskepsis "at or near the modern village of Koyun-eli." In the pseudo-Herodotean Life of Homer (c. 20; Allen's *Homer*, v, 205) is a prophecy put into the mouth of Homer, which refers to the Great Pine (Καλή Πεύκη). Evidently the Troad wishes to surpass the Stone Pine (Πίτυς) of Erythrae by its still more famous πεύκη Andeira was clearly near the mines which are still to be seen on the Deli-tepe and the Karaman-tepe east of Kebrene, between Skepsis and Gargara. In the plain of Aivajik are ruins which suit perfectly for Pionia or Pioniai (Strabo, XIII, I, 56). In two other passages (*ibid.* 65 and 67) Strabo mentions another Andeira sixty stades from Thebe. Pliny (*N. H.* V, 32) mentions a Pioniae in Teuthrania, and Pausanias (IX, 18, 4) also mentions Pioniai in Mysia. Either Strabo blundered, or Pausanias and Pliny are wrong, or there were actually two pairs of Andeira and Pioniai. Modern writers to the contrary notwithstanding, Strabo (XIII, I, 56) may be describing the distillation of metallic zinc at Andeira. The site of Hamixitos is at Baba Kalessi, not at Ak Liman.

The Language of the Hittites.—In *C. R. Acad. Insc.* 1917, pp. 119-124, F. CUMONT calls attention to the work of decipherment of the Hittite tablets in cuneiform characters found by Winckler at Boghazkeui. Since Winckler's death in 1913 Hrozný of Vienna has studied them with important results (*Mitt. Or. Ges.* LVI, 1915). The language proves to be Indo-European and to belong to the western branch which includes the Greek, Italic, Germanic, and Tokharian languages. Its nearest relative appears to be Latin. He declines the present participle of the verb "to give" thus:

Nom. <i>da-an(zu)</i>	Latin, <i>dans</i>
Gen. <i>da-an-daš</i>	" <i>dantis</i>
Dat. <i>da-an-ti</i>	" <i>danti</i>
Acc. <i>da-an-dan</i>	" <i>dantem</i>
Abl. <i>da-an-tet/d</i>	" <i>dante(d)</i>

The present indicative of the verb "to do" is thus conjugated:

<i>i-ia-mi</i>	Cf. Greek, <i>τιθημι</i>
<i>i-ia-si</i>	" <i>τιθης</i>
<i>i-ia-zi</i>	" <i>τιθησι</i>
<i>i-ia-u-e-ni</i>	" <i>τιθεμεν</i>
<i>i-ia-at-te-ni</i>	" <i>τιθετε</i>
<i>i-ia-an-zi</i>	" <i>τιθεασι</i>

He also compares *uga* or *ug* = *ego*; *kuiš* = *quis*; *kuwabi* = *ubi*; *kuiš kuiš* = *quisquis*; *kuitki* = *quidque*; *kuwatka* = *quodque*; *a-ap-pa* = *ἀπό*; *pa-ra-a* = *παρά*, etc. See

also J. H. MOULTON, *Exp. Times*, XXVIII, 1916, pp. 106-109, and S. A. COOK, *Pal. Ex. Fund*, XLIX, 1917, pp. 187-189.

The Lydian-Aramaic Bilingual Inscription from Sardis.—The first part of a somewhat detailed discussion of the important bilingual inscription found at Sardis by the American expedition, is published in *J.H.S.* XXXVII, 1917, pp. 77-87. The writer, S. A. COOK, approaching the question from the Semitic side, finds himself unable to accept the views of E. LITTMANN in the official publication (*Sardis*, Vol. I, pt. 1) that the Aramaic version, being in a language not used at Sardis, is an awkward literal translation of the Lydian original. On the contrary, although the Lydian is still only obscurely understood, there seems to be considerable divergence between the two versions, and there is abundant biblical and epigraphic evidence that at this time (the fifth or early fourth century B.C.) the Jews were already settled in outlying parts of the Persian empire, including Sepharad (Sardis), and the commercial importance of the capital of Lydia would necessitate the common use there of the *lingua franca* of the empire, which was Aramaic for the inland districts, as it was Phoenician on the sea coast.

GREECE

ARCHITECTURE

The Sixth-Century Artemisium at Ephesus.—In *J.H.S.* XXXVII, 1917, pp. 1-16 (15 figs.), W. R. LETHABY discusses the sculpture and architecture of the earlier temple of Artemis at Ephesus, the fragments of which are in the British Museum, and makes some criticism of the official publication by the Museum. The sculptured lower drums of the columns correspond to a sculptured frieze on the lower courses of the wall and the antae. This feature, which occurs in a long series of monuments in Asia Minor culminating in the great altar of Pergamon, is of Asiatic, probably Hittite, origin, the slabs of stone having served originally to protect the soft brick of the walls. At Ephesus the antae are made to rest upon standing bulls, like the portal guardians of Mesopotamian palaces. The background of the sculptured drums slants back more rapidly than the rest of the column but formed a continuous line with it, separated only by a narrow moulding. There was no frieze at the upper part of the walls, but a high marble gutter-front or parapet, which hid the tiled roofs, had very fine lion-mouth openings and groups of figures in relief between and above them. This feature is a development from the earlier use of terra-cotta facings. The fragments suggest as subjects the adventures of Heracles, Amazons, an assembly of seated divinities, and scenes from the Trojan War very much like those on the Treasury of the Cnidians at Delphi. At the corners may have been pairs of protecting gorgons, half-kneeling and with four wings, like those at Didyma. Possibly a Milesian sculptor did this work. All these parts were brilliantly colored with red and blue paint, gilding, etc. The naos of the temple was probably an open court, surrounded by walls which were just alike inside and out, and containing the covered shrine for the cult statue and the great altar in front of it. The very ancient statue, of cedar wood covered with gold plates, which was said to have fallen from heaven, was a tall, rude figure standing between two animals. The worship of the great nature-goddess on this site was probably founded by the Hittites

in the early days when the kingdom of Lydia was a part of their empire. Here would have been the western terminus of their great royal road, which led through Sardis and Asia Minor easterly to Mesopotamia, and over which the art and civilization of Babylonia were brought to Greece. Hittite influence is seen in many details of Ionic art, such as the volute capital, which may have been first used on free-standing columns like the Naxian monument at Delphi. The subjects of the sculptured column drums of the later, Hellenistic temple, some of which seem to be prototypes of Christian art motives like the Adoration of the Magi, suggest that the Artemisium at Ephesus was the Temple of the Nativity of Artemis.

The Origin of Caryatides.—In *R. Arch.*, fifth series, V, 1917, pp. 1-67 (2 pls.; 6 figs.), THÉOPHILE HOMOLLE discusses the origin of Caryatides and of the name. Beginning with the story told by Vitruvius, he shows that the "medism" and punishment of the people of Caryae at the time of the Persian invasion is impossible; but the story is probably based on occurrences of 368 and 367 B.C., when Caryae was conquered by the Spartans. The worship of Artemis Caryatis included dancing by maidens, and such maidens might well be called Caryatides. The Caryatides of Praxiteles (Pliny, *N. H.* XXXVI, 23) were probably such dancing girls. After the defeat of the men of Caryae the Spartans probably erected a monument of their victory and a natural form for this would be a group of Caryatides. Perhaps the column at Delphi crowned by a group of dancing maidens above an acanthus which served as a pedestal for them and the tripod which rose above them may be a replica of this monument, and this itself may have been the work of Praxiteles. The extension of the name Caryatides to female figures serving as architectural supports may be due to the fame of this group and to the fact that the general attitude of such supports resembles, especially in the upper part, the attitude of the maidens of this group.

SCULPTURE

An Early Attic Relief.—The upper left hand quarter of a stele of white Attic marble has recently been found at Cottenham, near Cambridge, England. It bears an archaic relief of an ephebus with his horse. The upper part of the two figures is shown facing the left. The horse throws his head up as if rearing and the youth, standing beside him, throws his weight backward to restrain him by means of the bridle now missing. The shoulders are in front view, the head in profile, and all the forms are those of the archaic period. A comparison of the head of the horse with similar heads on a series of vases of the sixth and fifth centuries shows the closest resemblance to be in the work of Onesimus, at about 485 B.C. If this approximate date is accepted for the relief, it is one of the finest monuments to the heroes of Marathon. The rest of the composition may be supplied from the archaizing relief found by Gavin Hamilton in the Villa of Hadrian in 1769 and now in the British Museum. Here the left hand of the youth is swung backward and upward holding a short stick and a small hound occupies the space behind the legs of the horse. A short cloak fastened around the neck of the ephebus blows out horizontally backward. The somewhat meaningless gesture of the left hand may be explained by the still more archaic type of Heracles taming the horses of Diomed, as shown on a metope of the temple of Zeus at Olympia.

Here the figures face the other way, the bridle is held in Heracles's left hand and his right hand brandishes his club. This design may have become reversed by being used as an intaglio on a die or seal. (A. B. COOK, *J. H. S.* XXXVII, 1917, pp. 116-125; pl.; 12 figs.)

The Boston Counterpart of the Ludovisi "Throne."—Additional considerations in favor of the authenticity of the Boston relief are presented by G. W. ELDERKIN in *Art in America*, V, 1917, pp. 276-288 (4 figs.). Studniczka's interpretation of the reliefs is followed, and it is suggested that the figure of Adonis is twice represented in the scales in order to show that he is claimed by both goddesses; so the Palladium is duplicated by Hiero on the vase representing the dispute of Odysseus and Diomedes. The Boston relief is thoroughly Hellenic in its emphasis upon the right side as lucky. The subjects on the two "thrones" correspond to those in the pediments of the Parthenon. In one is the birth of the goddess (Athena and Aphrodite); in the other her triumph over a rival divinity (Poseidon and Persephone). Numerous minor coincidences with Greek art of about 475 B.C. are cited, and the conclusion reached that it is very unlikely that a modern forger could have combined into an harmonious whole such diverse antique features.

The Followers of Praxiteles.—In *B.S.A.* XXI, sessions 1914-1915; 1915-1916, pp. 1-9 (5 pls.), is an article, originally a lecture, by the late GUY DICKINS, on the followers of Praxiteles. These followers fall into two classes, one of which developed the impressionism, the vagueness or *morbidezza* of Praxiteles, while the other developed his realism and also vulgarized it. The first class had its chief seat at Alexandria, where Bryaxis was probably its leading member, the other had its chief seat at Pergamon, with the sons of Praxiteles as its chief exponents. The Sarapis of Bryaxis shows the *morbidezza* of the Praxitelean Hermes further developed. The "Eubouleus" of Eleusis may be a work of the old age of Bryaxis. The Leaconfield head may, perhaps, be by Praxiteles. The Psyche of Capua shows similar qualities. The head from Chios, in Boston, cannot be by Praxiteles, but shows the qualities of the work of his Alexandrian followers, as does the Sieglin head of Alexander. The numerous "Praxitelean" Aphrodites and the like show the somewhat vulgar realism of the Pergamene followers of Praxiteles. To an eclectic school in Asia Minor, which combined the characteristics of the work of Praxiteles with those of the work of Scopas, such statues as the Niobe group, the Demeter of Cnidos, and the bronze from Anticythera are ascribed. The Mantinean base was not by the great Praxiteles, but probably by his grandson and namesake. A recently found inscription of the latter part of the fourth century notes the institution of a cult of Leto, probably in, or just after, 303 B.C. Pausanias, II, 21, 8, mentions a temple of Leto with a statue, by Praxiteles, of Leto accompanied by Chloris. This must be by the younger Praxiteles, to whom it is then easy to ascribe other statues of Leto. The drapery and the hair of the figures on the Mantinean base remind one of works of the end, rather than the beginning, of the fourth century.

Mount Helicon Personified.—In *Atene e Roma*, XVIII, 1915, pp. 138-141 (4 figs.), B. PACE argues that the head with bristling beard and disheveled hair on a relief found in the sanctuary of the Muses at Thespieae in 1889 and now in the National Museum at Athens represents Mount Helicon. There are references in the literature to mountains as old men.

A Fragment of an Ivory Statue.—Referring to the publication by C. Albizzati in the preceding issue of *J.H.S.* (XXXVI, pp. 373 ff.; cf. *A.J.A.* XXI, 1917, p. 455) of an ivory mask in the Vatican, W. R. LETHABY, *ibid.* XXXVII, 1917, pp. 17–18 (fig.), publishes as further illustration of the chryselephantine technique, a similar, but somewhat inferior, ivory that is in the British Museum. It is from a statuette and shows the middle portion of the face, with square surfaces at the bottom and sides to which the pieces for chin and cheeks were fitted. There was an overhang of some other material at the top and the empty eye sockets had eyes set in. It probably belonged to an archaistic work made in Alexandria for the Roman market.

VASES AND PAINTING

The Labors of Heracles on Vases in Philadelphia.—The Museum of the University of Pennsylvania has recently acquired a fine black-figured amphora upon one side of which Heracles is represented fighting with two Amazons, and upon the other two warriors attacking an Amazon. In connection with this vase S. B. LUCE collects the other illustrations of the labors of Heracles in the Museum (*Mus. J.* VIII, 1917, pp. 145–155; 11 figs.). They are: (2) Heracles in combat with two Amazons on a black-figured amphora. (3) Heracles in combat with an Amazon on a fragment of a black-figured eye cylix. (4) Heracles and the Cretan bull on a fragment of a black-figured eye cylix. (5) Heracles and the boar on fragments of an Attic black-figured amphora. Heracles and the Nemean lion (6) on a crude black-figured amphora; (7) on a black-figured column crater; (8) on a black-figured hydria; (9) on a black-figured panel amphora; (10) on a black-figured amphora from Corneto. In addition (11) the apotheosis of Heracles appears on a black-figured hydria; and (12) the marriage of Heracles and Hebe on a late red-figured pyxis.

Apelles and Alexander's Horse.—In *R. Arch.*, fifth series, V, 1917, pp. 189–197, SALOMON REINACH discusses a passage in the *Varia Historia* of Aelian (II, 3). Alexander inspected his equestrian portrait by Apelles and did not praise it as it deserved. His horse was brought in and neighed at the sight of the painted horse, whereupon Apelles said “O King, ἀλλ’ ὃ γε ἵππος ζουκέ σου γραφικώτερος εἶναι κατὰ πολύ.” This is generally rendered “your horse seems to be a much better judge of painting than you.” Really it means “your horse (in the picture) seems to be much better depicted than you.” This translation was given by Coelius Rhodiginus in 1516 and Erasmus in 1531. Bayle (in 1695) and Jan Six (in 1908) recognized that the two paintings of Aphrodite by Apelles mentioned by Pliny (XXXV, 91 and 92) are identical.

INSCRIPTIONS

The Locrian Maidens.—In *B.S.A.* XXI, sessions 1914–1915; 1915–1916, pp. 148–154, WALTER LEAF discusses the inscription published by Wilhelm (*Jh. Oest. Arch. I.* XIV, 1911, issued in 1913) and discussed by A. Reinach (*R. Hist. Rel.* LXIX, 1914, pp. 12–54). It was found in 1896 in western Locris, near the site of Tolophon, on the Corinthian Gulf. Contrary to the opinions of the previous writers, the inscription is found to record the end of the curse upon the descendants of the Oilian Ajax. No longer are two maidens to be sent annually for a year of penal servitude at Troy, and the Aianteioi

are no longer to be outlaws. The details of the arrangements made are for the most part clear, but some of them are lost, owing to the fragmentary nature of the inscription. The new word *ἐπιδικεῖν* may be equivalent to *ἐπιδικάζεσθαι*.

Propitiatory Inscriptions.—In *B.S.A.* XXI, sessions 1914–1915; 1915–1916, pp. 169–183 (pl.), W. H. BUCKLER publishes six Lydian propitiatory or confessional inscriptions. The first was copied at Kula in 1914. It is on a stele of grey marble. The others are already published as follows: *J.H.S.* IV, 1883, p. 385, No. 7; *R. Ét. Gr.* XIV, 1901, p. 101, No. 4; *Μουσείον*, 1886, pp. 84 f., No. *φοῖ*; LeBas-Waddington, 1764 b; *Ath. Mitt.* XXIX, 1904, p. 318. The new inscription reads: Διὲ Σαβαζίῳ καὶ Μη|τρὶ Εἵπτα Διοκλῆς| Τροφίμον· ἐπεὶ ἐπεί|ασα πιστερεὰς τῶν |θεῶν ἐκολάσθην ἰς| τοὺς ὀφθαλμοὺς καὶ| ἐνέγραψα τὴν ἀρετὴν. Above the text is a panel, on which are represented a pair of eyes and below these a pair of pigeons in low relief. The republication of the other inscriptions is accompanied by notes on their text and contents.

An Inscription from Elaeus.—In *C. R. Acad. Insc.* 1917, pp. 29–30, T. REINACH points out that the Attalus referred to in an inscription found on Gallipoli by Sergt. Major R. S. Jones, an English officer who was afterwards killed (*Classical Quarterly*, 1917, pp. 2 f.) refers to Attalus II, king of Pergamum 159–138 B.C., and that the town which honored the king was Elaeus.

Inscriptions at Petworth House.—In *B.S.A.* XXI, sessions 1914–1915; 1915–1916, pp. 155–168 (pl.), C. A. HUTTON republishes, with notes and remarks, the inscriptions *I. G.* II, 5, 477 d (*Ath. Mitt.* VIII, pp. 57 ff.), and Loewy, *Inscr. Griech. Bildhauer*, 517. The latter is declared to be genuine, and the date assigned is the first century B.C.

A Popular Title in a Delphian Inscription.—In a decree of the Roman Senate of 112 B.C. found at Delphi, C. Cornelius Sisenna is called *στρατηγός ἢ ἀνθύπατος*. In *R. Ét. Anc.* XIX, 1917, pp. 157–163, M. HOLLEAUX points out that this expression is due to a desire to give his popular, as well as his official title, *i.e.* the Greeks called him *στρατηγός*, but he was really *ἀνθύπατος*.

COINS

Coinage of Chios.—In *Num. Chron.* 1916, pp. 281–355 (2 pls.), J. MAVROGORDATO continues his classification of the coinage of Chios, covering in this third article the two periods from 334 to 190 and from 190 to 88 B.C. The years from 334 to 301 are practically a blank as far as coinage is concerned, but, though Chios disappears from written history for the best part of a century after the death of Antigonos and the passing of his realm into the hands of the Ptolemies, the author differs from some other numismatists in assigning a considerable number of Chian coins to this period, known to be one of great prosperity in the Aegean. The later period is especially rich in magistrates' names.

Hephaestus-Vulcanus on Ancient Coins.—In *R. Ital. Num.* XXX, 1917, pp. 11–70 (2 pls.), LORENZINA CESANO treats of the myth of Hephaestus-Vulcanus, of the depiction of the deity in various forms of plastic art, and then of the character of his representations on Greek and Roman coins.

Diseases of Coins.—Under the title 'Diseases of Coins' FRANCESCO ROCCHI describes the physical and chemical deterioration of surface and substance suffered by ancient bronze coins, and promises further articles on the maladies of coins in silver, lead, and tin (*R. Ital. Num.* XXX, 1917, pp. 173–189; figs.).

GENERAL AND MISCELLANEOUS

Aegean Archaeology.—The results obtained during the last fifteen years in the study of the prehistoric races and chronology of the Aegean basin are reviewed (with a chronological table) by A. E. R. BOAK in *Classical Journal*, XIII, 1917, pp. 25–36.

Archaeology in 1916.—In *Classical Journal*, XIII, 1917, pp. 186–192, G. H. CHASE summarizes the principal archaeological discoveries reported for the year 1916.

The Excavations at Gortyna.—In *Atene e Roma*, XVIII, 1915, pp. 49–68 (12 figs.), L. PERNIER publishes a general account of the results obtained by Italian archaeologists in their excavations at Gortyna.

The Cypriote Aphrodite.—In *R. Hist. Rel.* LXXIII, 1916, pp. 245–258 (4 figs.), R. DUSSAUD points out that the attributes of the Cypriote Aphrodite are the necklace and the crown. These are to be seen on the primitive flat figurines of the goddess from Cyprus dating from the third millennium B.C., and they continue in use down into Hellenistic times. The worship of Aphrodite is neither Semitic nor Greek in origin. She was a primitive mother goddess whose worship was influenced by many local rites, especially those in Cyprus. The Phoenician influence in her worship did not antedate the first millennium B.C. The story of her birth from the sea was probably derived from the ancient oriental custom of cleansing the statues of divinities in the sea in the spring.

Winckelmann's Career.—In *Brooklyn Museum Quarterly*, IV, 1917, pp. 140–165, W. H. G(OODYEAR) publishes under the title 'Winckelmann's Place in Modern History' a general account of Winckelmann's career based upon Justi's *Winckelmann, sein Leben, seine Werke und seine Zeitgenossen*. Another account based upon the same work is published by W. W. HYDE in the *Monist*, January, 1918, pp. 77–123 (portrait).

The Site of Olynthus.—In *B.S.A.* XXI, sessions 1914–1915; 1915–1916, pp. 11–15 (2 sketch maps), A. J. B. WACE places the site of Olynthus on the left bank of the Resitnikia river, opposite Myriophyton, and that of Mekyberna at Molivopyrgos.

The Maps in Ptolemy's Geography.—In *J.H.S.* XXXVII, 1917, pp. 62–76, L. O. T. TUDEER discusses the origin of the maps found in thirteen of the manuscripts of Ptolemy. They are all ancient, but some of them are evidently not Ptolemy's. The twenty-seven maps in the Latin translation which appear in the first printed editions are different from and later than those in the Greek manuscripts.

An Homeric Recipe.—The Homeric operation of mincing the portions of meat not suitable for roasting whole and preparing them skillfully for roasting over the coals on a spit (μίστυλλον τ' ἄρα τ' ἄλλα καὶ ἄμφ' ὀβέλοισιν ἔπειραν) which is described ten times in the Iliad and Odyssey, is still practised in Morocco, where it was observed in 1916 by Dr. F. Blanchod, a Swiss physician sent there to visit prison camps. It is described in some detail by J. KESER in *J.H.S.* XXXVII, 1917, pp. 59–61.

The Greek Papyrus Protocol.—The perpendicular script, usually quite illegible, used in the official mark or protocol (τὸ καλούμενον πρωτόκολλον) at the head of a roll of papyrus in Byzantine times, when the manufacture was a government monopoly, is replaced in at least one instance by a fairly legible cur-

sive. This is in No. 67316 of the Greek Byzantine papyri at Cairo, published in Vol. III of Maspero's *Catalogue*. The text is commented on by H. I. BELL in *J.H.S.* XXXVII, 1917, pp. 56-58. The perpendicular script was still copied as a meaningless formula or adjunct in Arabic times, when the heading itself had been transformed into the Mohammedan confession of faith in Arabic and Greek.

ITALY

ARCHITECTURE

The Round Buildings on the Column of Marcus Aurelius.—In *Z. Ethn.* XLVII, 1915, pp. 75-91 (30 figs.), R. MIELKE undertakes to show that there is nothing peculiarly "Germanic" about the supposedly German round buildings represented on the Column of Marcus Aurelius. Such primitive structures were common in Italy and the artists intended simply to represent the barbarian primitiveness of Germany.

The Temple of Antoninus and Faustina.—In *Mon. Ant.* XXIII, 1916, cols. 947-974 (3 pls.; 8 figs.), A. BARTOLI publishes an outline history of the temple of Antoninus and Faustina recording the different events in chronological order from the time of its dedication in 141 to the year 1899. He also summarizes the results of studies made of the building by Antonio da Sangallo the elder, Fra Giocondo, Baldassarre Peruzzi, Antonio da Sangallo the younger, G. B. da Sangallo, and G. A. Dosio, and shows how far they are useful for a correct understanding of the structure. He gives restorations of the ground plan, the tympanum, and the side elevation, based partly upon the actual remains and partly upon drawings and notes preserved from the sixteenth century.

The Four Small Temples of Ostia.—In *Mon. Ant.* XXIII, 1916, cols. 441-483 (3 pls.; 23 figs.), R. PARIBENI discusses the four small temples standing side by side on a single podium near the house of L. Apuleius Marcellus at Ostia. They have the form of the *templum in antis*. One is identified by an inscription as a temple of Venus, and the others were probably dedicated to Ceres, Fortuna, and Spes. The earliest of the four seems to date from the second century B.C. and all were apparently restored in the second century A.D. Several inscribed Rhodian amphora handles were brought to light as well as some pieces of terra-cotta relief representing lions' heads, etc.

The Ostian House.—In *Mon. Ant.* XXIII, 1916, cols. 541-608 (6 pls.; 16 figs.), G. CALZA discusses the type of house common at Ostia and shows that the *insula* was the form preferred. This had windows facing the street and often balconies. It differs completely from the Pompeian house with its court.

Basilicae in the Roman Theatre.—At the ends of the Roman stage were two large rooms which served as *foyers*. The technical names for these have not been known, but in *B. Soc. Ant. Fr.* 1916, pp. 235-237, A. HÉRON DE VILLEFOSSE shows by an inscription from Dougga that they were probably called *basilicae*. Furthermore *basilica* was probably a name which might be given to any large hall.

Roman Baths near Viterbo.—In *Boll. Arte*, XI, 1917, pp. 155-170 (pl.; 25 figs.), C. ZEI gives an account of sixteen Roman baths of which remains are extant near Viterbo. Illustrations taken from photographs accompany the article.

SCULPTURE

The Etruscan Sarcophagus of Torre San Severo.—In *Mon. Ant.* XXIV, 1917, cols. 5-118 (4 colored pls.; 55 figs.), E. GALLI publishes a remarkable

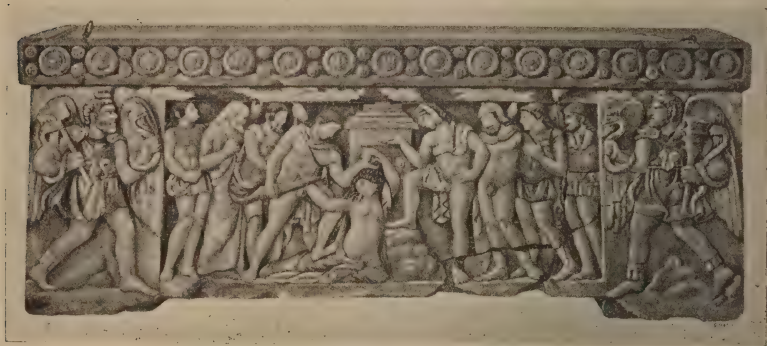


FIGURE 1.—THE SACRIFICE OF POLYXENA.

Etruscan sarcophagus found at Torre San Severo, in the commune of Orvieto, in 1912. Above ground there was no indication of the tomb, which consists of a large chamber nearly square (4.90 m. by 4.55 m.) entered by a dromos and



FIGURE 2.—ODYSSEUS IN HADES.

with a small room at the further end. The sarcophagus was in the large room. Vases, whole or fragmentary, of various kinds dating from the latter part of the third century B.C. were found, and pieces of bronze and iron. The sarcophagus has reliefs on sides and ends, and on both ends of the cover, all of which retain more or less of their painted decoration. On one of the long sides is repre-

sented the sacrifice of Trojan prisoners at the tomb of Patroclus. One lies dead, a second youth seated on the ground is being slaughtered, while two others are being brought in. Three spectators look on, one perhaps being the spirit of the dead Patroclus. To the right and left of this scene are winged female demons. The relief on the other long side represents the sacrifice of Polyxena at the tomb of Achilles in the presence of eight male figures (Fig. 1). At either end of this scene are winged female demons. The colors are much better preserved on this side, particularly the red of the garments. On one of the ends Odysseus, sword in hand, is threatening Circe, while two of his men with human bodies and heads of animals stand by. On the other end Odysseus is sacrificing the ram to call up from Hades the shade of Tiresias (Fig. 2). To the right are two male figures. Above the head of the ram, enclosed in an oblong frame, is shown a diminutive boat with tropical plants and birds. On each end of the cover is a male head, bearded and horned, on either side of which are reclining figures. On the long sides of the cover is a band of ornament consisting of large and small wheels. The writer thinks that these reliefs are to be traced back to Attic paintings of the fifth century. See also the same writer in *Art and Archaeology*, VI, 1917, pp. 229-234; 4 figs.

VASES AND PAINTING

A Neolithic Vase from Catania.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 133-157 (2 figs.), I. CAFICI, in connection with a neolithic vase, found in the vicinity of Catania, discusses the prehistoric civilization of Sicily. The vase is adorned with two bands of scratched zig-zag lines. It is of flattened spherical shape with wide mouth and two knob-like handles.

Etruscan Painted Sarcophagi.—In the *Anthropological Series* of the Field Museum of Chicago, Vol. VI, No. 4, 1917 (Publication 195), pp. 63-67 (9 pls.), F. B. TARBELL publishes three painted Etruscan sarcophagi in Chicago which were probably found at Toscanella, the ancient Toscana. They were hewn out of a block of volcanic tufa with two supports or feet, and covered with a lid. The shape was common from the seventh to the fifth century B.C., but these specimens are peculiar in having painted decorations. On the two long sides of Sarcophagus A are two large birds facing each other with a cup between them, on each end is a floral ornament, and on each side of the top of the cover a sphinx. The background is blue and the other colors used are black, brown, yellow, and red. On the two long sides of Sarcophagus B are two walking sphinxes facing each other with a floral ornament between them. On each end is a floral ornament, and on the cover hippocamps. The colors are the same as upon A, but the paintings have been retouched. Sarcophagus C has on one long side a man with serpent legs flanked by geese, and on the other side two sea monsters. On one end is a winged sea monster, and there are faint traces of a similar figure at the other end. As many as eight or nine colors were used, but the background was left in the natural color. These painted sarcophagi constitute a new class. The first two probably date from the second half of the sixth century B.C., and the third from the fifth century.

INSCRIPTIONS

Inscriptions of the Second Parthian Legion.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 399-414 (17 figs.), M. MARCHETTI publishes seventeen inscriptions

found in the cemetery of the second Parthian legion on the slopes of the Alban Mount near Aricia. They date from the time of Marcus Aurelius and Septimius Severus.

Miscellaneous Inscriptions.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 66–80, A. GARRONI sees indications of the Parsee religion in an inscription found at Varhely, the ancient Sarmizegetusa, which begins “*Deo aeterno et Junoni et angelis.*” In three long Greek inscriptions of the time of Septimius Severus, previously edited by Keil and Premerstein (*Denkschr. Wien. Akad.* LVII, 1) and reprinted here in transcription, the word *κολλητιῶνων* (*bis*) and *κολλητιῶνας*, a transliteration of the Latin *collectiones*, has reference, Garroni thinks, to the collecting of imperial taxes and not to “groupings of police” or the “rounding up” of criminals as Keil and Premerstein thought. The abject distress of the agricultural population of Asia Minor, then, as now, subservient to tyrannical governments, is portrayed in these inscriptions.

The Genuineness of C.I.L. XII, 1120.—In *B. Soc. Ant. Fr.* 1916, pp. 283–287, P. DE LESSERT defends the genuineness of *C. I. L.* XII, 1120 questioned by Hirschfeld.

An Early Christian Inscription.—In *Not. Scav.* XIV, 1917, pp. 169–174, G. PATRONI publishes an early Christian inscription of a Bishop Berevulfus, found in the ruined church of S. Ilario in Staffora, Voghera.

COINS

The Mint of Lugdunum.—In *Num. Chron.* 1917, pp. 53–96 (2 pls.), E. A. SYDENHAM gives a careful study of the history and issues of the Lyons mint from its inception (42 B.C.) to the reign of Galba, supplementing, and in some instances correcting, the work of A. H. Grueber (*Coins of the Roman Republic*, Vol. II) and of L. Lafranchi (*R. Ital. Num.* 1913).

Coinage of Catana.—In *R. Ital. Num.* XXX, 1917, pp. 107–142 (cuts), SALVATORE MIRONE begins a systematic account of the coinage of Catana from 476 B.C., the date of its first issues under the name of Aetna, to the cessation of colonial coinage in Sicily. The discussion is carried on in close connection with the political history of the city, and the present instalment closes in the “period of transition” (461–430 B.C.).

Alexandrian Coinage of Hadrian.—Some interesting peculiarities in the coinage of the Alexandrian mint during the early years of Hadrian lead J. G. MILNE to a study and classification of these issues, with reference to his own collection and to those at the British Museum, Athens, and Oxford, and to Sig. Dattari’s catalogue (*Num. Chron.* 1917, pp. 31–52; 1 pl.).

GENERAL AND MISCELLANEOUS

The Prehistoric Settlement near Vhò.—In *Mon. Ant.* XXIV, 1917, cols. 309–344 (plan; 29 figs.), P. CASTELFRANCO and G. PATRONI describe the antiquities brought to light in the Campo Castellaro in the commune of Vhò. The civilization is that of the inhabitants of the swamps and rivers of lower Lombardy.

Prehistoric Antiquities in Bologna.—In *Mon. Ant.* XXIV, 1917, cols. 221–308 (49 figs.), R. PETTAZZONI describes the prehistoric antiquities found at Toscanella Imolese at various times since 1886; and likewise the prehistoric and Etruscan antiquities excavated in the Villa Cassarini, Bologna, in 1906

and 1907. Most of the objects from these sites are in the Museo Civico, Bologna.

Neolithic Sites in Sicily.—In *Mon. Ant.* XXIII, 1916, cols. 485–540 (6 pls.; 52 figs.), C. CAFICI makes a study of two neolithic sites in the province of Catania, one at Trefontane and the other at Poggio Rosso. Numerous potsherds with incised decoration have been found at both places.

Prehistoric Remains from Sardinia.—In *Z. Ethn.* XLVI, 1914, pp. 640–645 (4 figs.), C. BRANDENBURG writes briefly of prehistoric graves, rock-dwellings, water cisterns, etc., near Cagliari in Sardinia. Prehistoric connection with Malta, Phoenicia, and Asia Minor seems probable. Among bronzes in the museum is a little gable-roofed temple, with a tower near it, on a rectangular bronze plate. Round stone disks 30 cm. in diameter and 5 cm. in thickness, with a hole in the centre, Nissardi thinks were used on a knotted rope to form ladders in the quarries. The native dress he connects with ancient Asiatic and Phoenician prototypes.

Memoirs of the American Academy in Rome.—In Volume I of the *Memoirs of the American Academy in Rome* (School of Classical Studies 1915–1916. Bergamo, 1917, Istituto Italiano D'Arti Grafiche), pp. 9–17, J. B. CARTER discusses the 'Reorganization of the Roman Priesthoods.' Pp. 19–54 (14 pls.), E. K. RAND and G. HOWE discuss the 'Vatican Livy and the Script of Tours.' Pp. 59–61 (pl.), A. W. VAN BUREN and G. P. STEVENS describe the portion of the Aqua Traiana which lies under the Academy building. It has been made accessible to visitors. The mills for grinding grain of which remains were found on the Janiculum by Lanciani in 1880, received their supply of water from the Aqua Traiana near the Academy. Pp. 63–85 (4 pls.), C. D. CURTIS discusses ancient granulated jewelry beginning with specimens of the twelfth dynasty from Dahshur now in Cairo, in which the globules are not perfectly round or smooth and in which sometimes too much solder was used. He also describes Trojan, Cretan, Mycenaean, Cypriote, and later Egyptian specimens, as well as some from Susa. The best work was done between the middle of the eighth century B.C. and the end of the seventh in Etruria, and in different parts of the Mediterranean, especially at Rhodes. In the finest specimens the globules are small, evenly placed and attached with a minimum of solder so that they appear raised above the surface. The solder was either electrum or a purer gold. Sometimes globules of different sizes were skilfully intermingled. Pp. 87–102 (29 pls.), S. LOTHROP describes the authentic works of the Umbrian painter Bartolomeo Caporali, and upon the basis of these others which may be assigned to him. During the latter part of his career he was influenced by Perugino and Pinturicchio. Pp. 103–119 (2 pls.), J. R. CRAWFORD shows that Gauckler's theory that the heads of statues of which a section had been removed from the top were so cut for the purpose of performing a rite of anointing, particularly in the case of cult statues of Syrian gods, cannot stand. He gives fifty-seven examples of such heads and shows that in the case of female heads the cutting was done in order to permit a change of coiffure. The male heads were cut either because they had been injured, or because the sculptor was willing to use more than one piece of marble for his statue, or, in a few cases, that a crown might be removed. Pp. 121–167 (4 pls.), E. S. MCCARTNEY shows that the Romans introduced many improvements into their army from Etruria. He cites as examples the development of the Roman spear, shield,

armor, helmet, cuirass, and greaves; of metallurgy; of organization, the legion, home defense, musical instruments, standards, cavalry, the chariot, and camps.

Papers of the American School in Rome.—In Volume II of the *Supplementary Papers of the American School of Classical Studies in Rome* (New York, 1908, Macmillan) there are two archaeological papers not previously recorded in the JOURNAL. They are: (pp. 26–83; 18 figs.), C. D. CURTIS, 'Roman Monumental Arches,' in which the writer discusses the origin of triumphal arches and describes in chronological order extant arches, or those of which good descriptions exist, seventy-three in all; and (pp. 263–290; 20 figs.), J. C. EGBERT, a discussion of more than seventy Latin inscriptions, many not previously published, either discovered by him or brought to his attention in Rome during the year 1903–1904.

The Equestrian Officials of Trajan and Hadrian.—The Emperor Hadrian introduced into the administration of the Roman empire various reforms, many of which affected the members of the equestrian order. In order to test these and to separate as far as possible the innovations of Hadrian, R. H. LACEY in his doctor's dissertation at Princeton collects the names of all the equestrian officials under Trajan and Hadrian, 97 in number. He finds that under Hadrian military service was not required of the *equites* before entering upon a civil career. Furthermore a policy was consistently followed of employing them in all higher administrative positions. [*The Equestrian Officials of Trajan and Hadrian: Their Careers, with some Notes on Hadrian's Reforms.* By RAYMOND HENRY LACEY. Princeton, 1917, University Press. 87 pp. 8vo.]

Antiquities from Todi at the Villa Giulia.—In *Mon. Ant.* XXIII, 1916, cols. 609–684 (4 pls.; 37 figs.), G. BENDINELLI describes the antiquities from Todi now in the museum of the Villa Giulia. These consist of gold jewelry, bronze mirrors (one representing the judgment of Paris), a candelabrum with a high stand, and vases. They come from seven tombs and date from the fourth and third centuries B.C.

Venus with the Balance.—In *R. Arch.*, fifth series, V, 1917, pp. 289–295 (fig.), SALOMON REINACH discusses the type of Venus holding a pair of scales (a balance) on a coin of the *gens Cordia* issued in 50 B.C. (Babelon, *Monnaies de la République romaine*, I, p. 382). Macrobius, I, 12, mentions that the dwelling of Venus is in the house of the Balance (Libra). On coins issued under Antoninus Pius, Venus appears in company with a star and a winged maiden who carries a balance, and also with a star and a bull. These coins have long been regarded as astrological, and the type of Venus with the balance belongs in the same category. Whether this is the type of Venus Verticordia, or not, is doubtful. The type is found on the sculptured column of Mayence, and there also its significance is doubtless astrological.

Magic Disks or Mirrors from Tarentum.—In *R. Arch.*, fifth series, V, 1917, pp. 87–107 (3 figs.), FRANZ CUMONT discusses several terra-cotta disks covered with numerous symbols. These all seem to have been found at Tarentum. They were undoubtedly intended to be used in magic, and probably, especially if gilded or coated with silver, were a substitute for mirrors. The number of symbols runs as high as 31. The symbols are of various character and show the syncretism of the beliefs at the time when the disks were made, which was probably in the second or first century B.C.

Roman Navigation to the Far East.—In *J.A.O.S.* XXXVII, 1917, pp. 240–249, W. F. SCHOFF shows that there is no satisfactory evidence of Roman enterprise by sea to the far east. That Roman shipping frequented the ports of the Tamil kingdoms and Ceylon is undoubted, but from the great beyond they brought back only hearsay. The author of the *Periplus* gives a summary out of the *Ramayana* and the *Puranas*. Marinus of Tyre gives the accounts of a few other mariners, on which Ptolemy makes specious calculations. Roman ships in the Bay of Bengal and the China Sea were so rare that two or three in a century might tell their tale.

The Figure-head of a Roman Ship.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 81–84 (3 figs.), R. MENGARELLI describes a bronze beak-head of a Roman boat found some time ago in Trajan's harbor of Centumcellae (Civitavecchia). A small female bust of severe dignity, representing perhaps Ceres or Juno, forms the front part of a box-like trapezoid so shaped as to cover the prow of the boat. To this it was attached by nails, the holes for which were left in the casting. The bust measures 122 mm. in height. Only two other such figure-heads are known to the writer.

The Increase of Gold in Rome during the Republic.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 41–65, E. PAIS, in an article on the increase of gold and the effect of this increase on the Roman treasury during the Republic, treats of the limitation of the output of the mines in Italy as foreign imports of gold became greater. Pliny, *N. H.* III, 138, XXXIII, 78, and XXXVII, 202, as well as passages in Strabo and Polybius are discussed. The Romans' use of gold in other ways than as currency is emphasized in contradistinction to the custom of most other countries.

The Romanization of the Aosta Valley.—In *Rend. Acc. Lincei*, XXV, 1916, pp. 3–27 (2 figs.), E. PAIS, in connection with an inscription in which *Salassi incolae* are mentioned, discusses the Romanization of the Aosta valley. The colony Augusta Praetoria was founded as an outpost against the Salassi in order to control the auriferous streams of the valley and the salt mines farther up in the mountains. The strategical and commercial importance of the place, situated at the terminus of the Great St. Bernard and Little St. Bernard routes, has been much reduced since the great railroad tunnels have been constructed.

SPAIN

Emporion.—In *R. Arch.*, fifth series, V, 1917, pp. 108–123 (9 figs.), PIERRE PARIS continues his description of Emporion (see *A.J.A.* XXI, 1917, p. 348). Remains of the Roman wall, the Roman mole, a Christian basilica, and Greek tombs are described. Among smaller objects, a fine Attic alabastron, a beautiful, though fragmentary, red-figured Attic amphora or pelice with the representation of the crowning of a choragic tripod in the presence of Apollo, Dionysus, Nike, Hygieia, Paideia, Comedia, and Satyrs, and a terra-cotta figure of Demeter in the style of the middle of the fifth century B.C. are chosen for especial description and illustration.

FRANCE

Archaeological Studies in France.—In *Science and Learning in France* (Chicago, 1917, Society for American Fellowships in French Universities,

edited by JOHN H. WIGMORE, xxxviii, 454 pp.; 56 pls. 8vo.), pp. 31-44, G. H. CHASE, H. N. FOWLER, A. L. FROTHINGHAM and J. R. WHEELER give a sketch of the Frenchmen who have distinguished themselves in archaeology in the past and set forth the opportunities for archaeological study in France at the present time.

The Mosaic of Orpheus Charming the Animals.—In *C. R. Acad. Insc.* 1917, pp. 57-63 (fig.), P. FABIA shows that the great mosaic found at Saint-Romain-en-Gaul in 1822 representing Orpheus charming the animals is wrongly restored. In addition to the central design there were originally forty-four figures of birds and animals enclosed in octagonal frames. Only the better preserved part of the mosaic was removed to the museum at Lyons, and the various animals were placed about the central square without regard to their original positions.

The Drawings of Peiresc.—In *B. Soc. Ant. Fr.* 1916, pp. 230-233 (fig.), G. LAFAYE points out the importance of the drawings and notes of the antiquary Peiresc (died 1639) together with those of Louis and Henri de Mazaugues for the history of antiquities in France, and cites a relief in the museum at Aix which a drawing by Henri de Mazaugues shows to have been part of a large stele.

Trade Divinities in Gaul.—In *R. Ét. Anc.* XIX, 1917, pp. 199-205 (2 pls.), C. JULLIAN calls attention to certain divinities which are shown presiding over various trades in Gallo-Roman sculpture and especially to a relief in the museum at Épinal. In the centre of this is a standing female figure holding a round cake, while in the background at her left is another figure busily working. Tubs and a furnace are to be seen, and in a sort of window two round cakes. The writer thinks this represents a soap factory and he gives to the presiding goddess the name Juno Saponaria. Gallic soap was famous. A relief at Metz showing five young men and an aged man about to sacrifice a rooster may represent a sacrifice of medical students to Aesculapius.

The Equestrian Deity of Luxeuil.—In *R. Arch.*, fifth series, V, 1917, pp. 72-86 (2 figs.), is an article by ÉMILE ESPÉRANDIEU on a fragmentary group said to have been found at Luxeuil in 1855. A bearded rider holds with one hand a nearly nude woman against his leg and the side of his horse. The rider is bare headed and wears a tunic and jerkin. On one arm he carries a wheel. One forefoot of the horse rests upon a female human head. Probably this head should be regarded as part of a figure with snakes instead of legs, and the horse should be restored in a rearing or galloping posture. The rider may be identified with Jupiter, and the wheel has an astral significance.

The Gallo-Roman Potters of Avocourt.—In *R. Arch.*, fifth series, V, 1917, pp. 152-157 (2 maps), G. CHENET gives a brief account of remains of ancient potteries in and near Avocourt, canton of Varennes (Meuse). The moulds and pottery date from the second, third, and fourth centuries A.D. Some of the pottery was decorated with reliefs. Makers' stamps are numerous.

GERMANY

Neolithic Spherical Vases.—In *Z. Ethn.* XLVII, 1915, pp. 40-52 (8 figs.), H. MÖTEFINDT brings forward "old and new facts" about the neolithic spherical vases of Saxony.

Prehistoric Vases.—In *Z. Ethn.* XLVII, 1915, pp. 35-39 (3 figs.), H. MÖTEFINDT describes two prehistoric vases with linear decorations found near Klein-Mühlingen (Anhalt).

Prehistoric Antiquities from Cüstrin.—In *Z. Ethn.* XLVI, 1914, pp. 880-902, A. KIEKEBUSCH presents the results of recent excavations of prehistoric sites near Cüstrin (Brandenburg). Whorls, primitive pottery, needles, bone-combs, etc. were among the finds.

Prehistoric Antiquities in Thuringia.—In *Z. Ethn.* XLVI, 1914, pp. 662-669 (12 figs.), H. MÖTEFINDT writes of antiquities from prehistoric and early historic times existing in the private museums of Thuringia. Among these he describes bronze rings, bracelets, painted pebbles, adzes, lance-points, etc.

Prehistoric Remains near Ufrungen.—In *Z. Ethn.* XLVI, 1914, pp. 646-661 (12 figs.), H. MÖTEFINDT describes the so-called "Thieves' caves" near Ufrungen and prehistoric remains such as rings, needles, armlets, fragments of pottery, etc. found therein.

A Prehistoric Smelting Furnace.—In *Z. Ethn.* XLVI, 1914, pp. 447-452 (4 figs.), R. KRIEG describes a prehistoric smelting furnace, in the general shape of a tree trunk, found in 1913 near Sangerhausen. Six holes, arranged in pairs, were to supply the draught and provide for drawing off the molten metal.

AUSTRIA-HUNGARY

A Stone Ball of the Bronze Age.—In *Z. Ethn.* XLVII, 1915, pp. 227-232 (3 figs.), H. BUSSE describes a perforated stone ball of the early Bronze Age from Radlow on the Scharmützelsee. Its diameter is 75 mm. and its height 67 mm. It may have been used as the head of a club.

A Vase with Bosses.—In *Z. Ethn.* XLVII, 1915, pp. 60-64 (2 figs.), H. BUSSE describes a *Buckelgefäß* (vase with bosses) found at Radlow on the Scharmützelsee. The vase has a spherical body with sharply defined and relatively narrow neck with a spreading lip. Its bosses, four in number, are perforated at the point and the rest of the surface is also covered with perforations indicating that the vase was used as a sieve or a shaker of some sort. Such vases may have been used in religious rites as censers.

NORTHERN AFRICA

Punic Inscriptions.—In *J. Asiat.* IX, 1917, pp. 145-166, J. B. CHABOT continues his investigation of Punic inscriptions begun in previous numbers of the same journal. He makes a fresh examination of the originals in various museums of Tunis and of other countries, and of squeezes from the originals, and succeeds in detecting a large number of errors in the current editions of these texts.

A Colony of Veterans at Djemila.—In *C. R. Acad. Insc.* 1916, pp. 593-599, R. CAGNAT shows by means of several dedications to Mars recently found at Djemila that in the time of Nerva or Trajan, probably the former, a colony of veterans was settled at Djemila.

EARLY CHRISTIAN, BYZANTINE AND MEDIAEVAL ART

GENERAL AND MISCELLANEOUS

An Iconographic Method.—In *R. Arch.*, fifth series, V, 1917, pp. 282-288, GABRIEL MILLET contributes an 'Essai d'une méthode iconographique' to determine and trace the sources of the types developed in the Middle Ages. The iconographic types are connected with one of the three powerful traditions which divided among themselves the Christian East: (1) The Hellenistic, idealistic tradition, still surviving as late as the sixth century in the Greek cities of Egypt and Asia, (2) the oriental tradition of Mesopotamia, the Anatolian plateau, Armenia, and the Caucasus, which is realistic, (3) the Byzantine tradition, which retains the ancient sense of restraint and nobility, but also draws its types from the narrative cycles. These narrative cycles were formed in the fifth and sixth centuries under the influence of the Cappadocian Doctors. From the manuscripts they passed to the churches. They are to be traced in the descriptions of mosaics and in manuscripts. It is from this narrative iconography that the art of the Middle Ages, in the East and the West alike, drew its types and motives. Two especially important manuscripts, Parisinus 74 and Laurentinus VI, 23, represent the versions of Antioch and Constantinople respectively. Two schools are distinguished. One, in the fourteenth century, was active especially in Old Serbia and Macedonia, the other, in the fifteenth and sixteenth centuries, especially at Mt. Athos. In the West the types of the version of Antioch were imitated from the sixth century, but in the thirteenth century, after the fourth Crusade, Byzantine types and Byzantine influence prepared the way for the trecento in Italy.

Tombs with Windows.—In *R. Arch.*, fifth series, V, 1917, pp. 245 f., W. DEONNA gives citations from authors to prove that cures were sought by touching the relics of saints with a piece of cloth or the like inserted through an opening in the tomb. Such a tomb containing bones was found in 1868 in the cathedral of St. Peter at Geneva. It may have been the tomb of St. Maximus, made bishop of Geneva in 512-513. *Ibid.* pp. 246-248 (fig.), HENRY COROT describes a sarcophagus at Barjon (Côte d'Or), in which St. Frodulphe (Saint Frou), who died at Barjon in the eighth century, was buried. In the end of this is a round hole through which persons afflicted with headache inserted their heads. Remarks on holes of this kind and holes made by robbers of tombs and further remarks on the tombs at Alesia (Alise) are added.

ITALY

Some Paintings of the Sienese School.—Examples of the work of four artists of the Sienese school are published by F. M. PERKINS in *Rass. d'Arte*, XVII, 1917, pp. 45-54 (6 pls.; 3 figs.). Two panels in the gallery of Siena representing St. Peter and St. Paul, which in the official catalogue of the gallery are attributed to an "unknown master," bear the indubitable characteristics of Lippo Memmi. To the same master belongs a third panel, another representation of St. Paul, in the Metropolitan Museum, New York, where it is attributed to the school of Simone Martini. A recent acquisition of the Fogg Museum, a representation of the Nativity, is one of the most interesting examples of Sienese painting now in America. It resembles the work of Bar-

tolo di Fredi more closely than that of any other known artist, but it is far superior to the best of his productions and must be assigned to an unknown master of the middle of the trecento. (See also following paragraph.) A charming miniature, until recently in the library of the Convent of the Osservanza near Siena, is assigned to Francesco di Giorgio. Finally, in a panel from a dismembered diptych of the Annunciation are recognized the distinguishing marks of that anonymous follower of Simone Martini who produced the beautiful miniatures of the so-called *Codex of San Giorgio*. The panel belongs to the collection of B. d'Hendecourt of Paris.

"Ugolino Lorenzetti."—The Nativity recently added to the Fogg Museum (see preceding paragraph) is discussed by B. BERENSON in *Art in America*, V, 1917, pp. 259–275 (pl.; 5 figs.); VI, 1917–1918, pp. 25–52 (10 figs.). "This work, for its qualities of composition, drawing, modeling and technique, deserves a place with the most convincing, most impressive, and most sumptuous achievements of Sienese painting." A minute analysis of the style leads to the conclusion that while indubitably Sienese and very probably not later than 1340, it cannot be assigned to any known master. It is possible, however, to connect with it several other paintings, all of which show the hand of an artist who began as a pupil of Ugolino di Vieri and ended as a follower of the Lorenzetti; to avoid anonymity he may be called, until his identity is discovered, by the names of his teachers, "Ugolino Lorenzetti."

Two Unpublished Paintings.—In *Rass. d'Arte*, XVI, 1916, pp. 121–122 (pl.; fig.), F. M. PERKINS publishes two important paintings of the Madonna and Child. One, in the Sachs collection in New York, is to be assigned, at least as regards the major part of the work, to Jacobello del Fiore. It is one of the few genuine works by this artist—perhaps the only one outside of Italy. The other Madonna is in the Church of S. Andrea, Mosciano, and is an unusually well preserved example of the "pre-Giottesque" school. Stylistic criticism places its date at the end of the thirteenth or beginning of the fourteenth century. *Ibid.* p. 156 (pl.), the same writer publishes another primitive painting of a Madonna in the church of S. Lorenzo a Vicchio di Rimaggio, Florence. There is here little of the dugento manner that is found in the Mosciano Madonna. Here the type of figure and the handling of drapery are much more naturalistic and indicate the work of a contemporary of Giotto, but of one who was free from the influence of that great master, one who was following the new artistic current, but had not yet completely abandoned the traditions of the old school. The date may safely be fixed in the first decade of the trecento.

Two Italian Madonnas.—In *Art in America*, V, 1917, pp. 246–251 (2 figs.), P. C. NYE publishes two Italian polychrome wooden statues of the Madonna brought to this country late in 1916. The older one of the two is owned by Mrs. W. L. Davis of New York City. It represents the Madonna standing, holding the nude Child upon her left arm. The wearing down of the surface is interesting in showing how successive coats of different colors have been superposed one upon the other, with a final layer of gold. The features and physical build of the Madonna, her drapery, and the appearance of the Child help to place the statue late in the fourteenth century, the work of an Umbrian sculptor who was subject to some Tuscan influence. The second example is owned by the Princeton Museum. Here the subject is a seated Ma-

donna, absorbed in contemplation and showing little concern for the nude Child that lies on her lap. The work came to Princeton with the tentative date of the fifteenth century, created under the inspiration of Boccati. But careful study of the position, type, draperies, throne, and decorations makes quite probable the conclusion that the work is that of a Lombard master of the late fifteenth century who worked under Tuscan influence.

S. Angelo in Formis near Capua.—In *Rass. d'Arte*, XVII, 1917, pp. 13-24 (10 figs.), V. BINDI publishes some views (particularly of frescoes) of the basilica of S. Angelo in Formis, one of the most significant monuments of mediaeval Christian art, and sketches the conflicting opinions of some of the most important art historians regarding it. The church was built in the first half of the tenth century, and the fresco decoration was carried out in the eleventh century under the abbot Desiderio. The whitewash which was later employed to hide the paintings from view has been in large part removed by Demetrio Salazaro. The principal division of opinion in regard to the church centers about the influences to be seen in the frescoes. Salazaro, Kraus, and Parente are among those who see in the work the intermingling of Byzantine and indigenous Latin characteristics, while those who recognize only one manner, the Byzantine, are represented by such authorities as Venturi, Caravita, and Dobbert.

The Sepulchre of Guidotto de' Tabiati.—In *Rass. d'Arte*, XVI, 1916, pp. 232-235 (fig.), S. R. DE PASQUALE writes on one of the two known works of Goro di Gregorio da Siena, the sepulchre of Archbishop Guidotto de' Tabiati in the Cathedral at Messina. It is signed and dated 1333. We have no account of Goro's private life, but his work indicates the direct tutelage of Giovanni Pisano. His technique is rather defective, because he works for effects more pictorial than sculptural, and he attains almost too modern impressionistic results.

Mediaeval Aretine Goldsmith's Work.—In *Rass. d'Arte*, XVI, 1916, pp. 236-246 (21 figs.), M. SALMI offers a brief historical treatment of the mediaeval goldsmith's work in the Aretino. The earliest examples studied are crucifixes. One of gilded copper, No. 15109 in the museum of Arezzo, is the most noteworthy Romanesque specimen and is assignable to the twelfth century. To the same period belongs a bronze figure of the crucified Christ on a later cross in the parish church of Pomaio. Another of similar material and likewise reconstructed, but of the next century, is in the Pieve of Pontenano. These are all Italian, but No. 15107 in the museum of Arezzo looks Rhenish; No. 11081, Limousine. Coming to the thirteenth and fourteenth centuries the material for study is richer. The numerous gilded chalices in the museum and in churches of the province are supplemented by so important a work as the silver bust of San Donato of the year 1346 in the Pieve S. Maria at Arezzo. This work of Paolo and Pietro Aretini is of Siennese inspiration and though behind its time, of great technical interest, especially for the enamels inserted. Reliquaries are plentiful, too, though crucifixes of the thirteenth, fourteenth, and fifteenth centuries are scarce. Of the works of the fifteenth century a *navicella* and two bases for little cupids may, perhaps, be attributed to Parri Spinelli, helper in Ghiberti's studio. In the latter half of the century Renaissance forms from without affected the local style. The most important extant work of this period is the urn of SS. Lorentino and Pergentino on the top of

which is a Madonna della Misericordia. This work (now in the museum at Arezzo) for which the commission was given to Niccolò del Borgo San Sepolero in 1498, is thus indicative of the losing prestige of the local workmen, who did, however, continue their style even into the sixteenth century.

FRANCE

Sainte-Croix of Quimperlé.—In *Am. Archit.* CXII, September 5, 1917, pp. 161-168 (10 figs.), A. K. PORTER discusses the church of Sainte-Croix of Quimperlé, erected in 1083, which is interesting especially for the rib vault in its middle compartment. This is the earliest example of a Lombard rib vault north of the Alps. There are also other evidences of Lombard influence in the church. In fact its whole plan shows such a close analogy to the Baptistry of S. Ponzio Canavese, erected in 1005, that it is likely that it was influenced by this building.

Churches in Brittany.—In *Am. Archit.* CXII, October 31, 1917, pp. 313-322 (13 figs.), A. K. PORTER discusses the eleventh century churches of St.-Benoit-sur-Loire, Ste.-Marie-de-Loemaria, the church of Loctudy and Ste.-Croix of Quimperlé; and comments upon the church of Pont-Croix, St.-Ergat at Pouldergat, St.-Meylar of Meillars, St.-Magloire of Mahalon, and the abbey of Daoulas.

BELGIUM AND HOLLAND

The Virgin of Autun by Jan van Eyck.—Jan van Eyck as the great initiator of modern technique is the theme of A.-C. COPPIER's article in *Les Arts*, No. 159, 1917, pp. 14-20 (2 pls.; 4 figs.). The famous painting of the Virgin and Chancellor Rolin is taken as the point of departure. In it one sees, besides the wonderfully minute delineation which the modern may scorn but cannot imitate, technical innovations that have been ascribed to other peoples, particularly the Florentines. It demonstrates its author's successful researches in perspective. The atmosphere is wonderfully represented, and the modelling of the figures and reproduction of the quality of textiles, jewels, and furs are beyond reproach. The architectural forms, also, though in size purposely made disproportionate to the figures, show in their design the hand of a creator.

The Shrine of S. Hadelin.—In *Burl. Mag.* XXXI, 1917, p. 20 (2 pls.), A. BAIRD publishes the shrine of S. Hadelin in Visé. The sides, representing scenes from the life of S. Hadelin, are assigned to the twelfth century goldsmith, Godefroi de Claire. The two end pieces are probably late eleventh century work. One of these depicts Christ crowning two saints. On the other is a subject rare in mediaeval art, Christ clad as a warrior knight, triumphant over the powers of evil. Parallels for this subject are found in a few works of the Meuse district.

GREAT BRITAIN

English Primitives.—The Westminster and Chertsey tiles are discussed by W. R. LETHABY in *Burl. Mag.* XXX, 1917, pp. 133-140 (pl.; 9 figs.). Both sets were evidently designed by the same painter, who is probably to be identified as Master William of Westminster. The date assigned to the

one set is about 1255; to the other about 1260. The Westminster tiles, which it is certain were actually designed for the Chapter House, where they now are, are the earliest examples in English pictorial design of the Romantic subject. A long series of the tiles in Chertsey Abbey illustrate the Romances of Tristram and Richard. A representation of the great rose window of the Transepts, which fills four tiles in the Westminster Chapter House, is one of the best "architectural drawings" of an early period which have been preserved in England. *Ibid.* XXXI, 1917, pp. 45-52 (pl.; 6 figs.), the same writer discusses works connected with the names of Matthew Paris and Friar William. To the former, born about 1200 and educated in the Monastic school of St. Albans, it seems permissible to assign the writing and illustrating of a number of manuscripts, or at least the direction of the work. The most important manuscript is the *Major Chronicle*, now at Corpus Christi College, Cambridge. The Cottonian manuscript *Nero*, D, 1, containing, with fine illustrative drawings, the lives of the two Offas and the lives of the Abbots, is another important work, part of which may be attributed to M. Paris. The *Minor History* (Roy. 14, C, VII) contains the remarkable drawing of The Virgin's Kiss, with M. Paris kneeling at the Virgin's feet. This is followed by portraits of eight kings from William the Conqueror to Henry III. All are the work of M. Paris himself, or planned by him, and are to be dated about 1250. A painting of St. Peter at Faaberg has been assigned to M. Paris, and the close relationship of its design to the Christ of the Revelation, a large drawing by Friar William on folio 155 of the collection of Matthew Paris, strengthens this attribution. The drawing of the Christ is the work of one of the foremost artists of his time. *Ibid.* XXXI, 1917, pp. 97-98 (2 figs.), Mr. LETHABY describes some extant paintings by Master Richard, Monk of St. Albans, and his father, Master Simon. Both ornamental and figure designs representative of their work are still to be seen on some of the piers in the Abbey of St. Albans. Master Richard, whose working period is dated about 1240 to 1270, "was the chief painter of the St. Albans school during the last twenty years of the life of M. Paris; together they must be credited with the development in the style of Walter Colchester."

Piers Plowman in English Wall Painting.—In *Burl. Mag.* XXXI, 1917, pp. 135-140 (pl.; 5 figs.), E. W. TRISTRAM writes on the subject of a number of English wall paintings, hitherto unexplained. This subject is derived from, or at least connected with, *The Vision of Piers Plowman*, which was written about 1362. The principal feature of the compositions is the upright Christ, surrounded by workmen's tools, showing the divine approval of labor. The popularity of the subject is evidenced by the fact that fourteen or fifteen representations still survive. They belonged to the poorer classes and so are found in country churches, and the workmanship is generally unskilled. The most interesting of all treatments of the subject is the one in the small Norman church of Ampney St. Mary's.

RENAISSANCE ART

GENERAL AND MISCELLANEOUS

Ancient Subjects in Tapestries.—In *R. Arch.*, fifth series, V, 1917, pp. 296-309, LOUISE ROBLOT-DELONDRE begins a chronological study of the ancient

subjects represented in tapestries. Her material is drawn from documents of the fourteenth, fifteenth, and sixteenth centuries. Scenes from the Old Testament are included. The traditions of tapestry are different from those of painting. Tapestry was a court art. The designers of tapestries often represented together persons of different dates and persons of sacred and profane history. Toward the end of the fifteenth century Italian influence begins to appear in the tapestries of the Netherlands. In the sixteenth century many scenes of Greek mythology, especially inspired in many instances by the *Metamorphoses* of Ovid, were woven in Flanders and at Fontainebleau, in which the collaboration of Italians is found. The influence of the Italian Renaissance is strong in the style at this time. Tapestries woven in Italy are closely connected with the art of Flanders.

The Master of the Death of Mary and the two Josse van Cleve.—In *R. Arch.*, fifth series, V, 1917, pp. 205–227 (2 pls.; 4 figs.), ANDRÉ MACHIELS reviews the discussions of the Master of the Death of Mary and the two painters called Josse van Cleve. Joos van der Beke, alias van Cleve, was received as master in the guild of St. Luke in 1511, and died before April 13, 1541. Josse van Cleve, called “the Mad,” was in England in 1554. The two are obviously not identical. If the Master of the Death of Mary is identical with either of them, which is doubtful, it must be with the elder.

ITALY

Bramante and the Problem of Vertical Supports.—In *Rass. d'Arte*, XVI, 1916, pp. 175–178, 192–198 (13 figs.), G. VERGA traces the evolution of the harmonious increase in the number of supporting features in the successive stories of his buildings as worked out by Bramante. This architect, after varied experimenting, hit upon the plan of just doubling the supports in the second story so that in the space division the extra support would come, if above an arch, directly above the crown (S. Maria della Pace, Rome); or if above an architrave, in symmetrical relation to the lower supports (S. Maria delle Grazie, Milan). This system is that passed down by such old models as the Florentine Baptistery; but the followers of Bramante were so enamored of the multiplication of supports as to go on into too familiar vagaries.

The Cathedral of Asola.—In *Rass. d'Arte*, XVI, 1916, pp. 155–163 (10 figs.), G. CAGNOLA writes on the Cathedral of Asola, Brescia, completed in 1514 under the direction of the architect Biondello. There is little remarkable in the exterior of the edifice; but the interior, with its decorations, is of unusual interest. The two most important artists responsible for the pictorial work were Moretto and Romanino. In an altar-piece representing the Presepio are recognized for the first time the characteristics of the youthful Moretto. (The altar was dedicated in 1518.) It is one of several representations of the subject by this master, the Presepio in the Galleria Martinengo, Brescia, being an example which affords parallels with the Asola composition. The Annunciation in the Asola Cathedral also is to be attributed to Moretto. These paintings, in their calm, silvery compositions, contrast with the vigorous, brilliantly colored works of Romanino. To the latter are assigned the rich decorations of the organ and pulpit. Among the subjects represented are The Sacrifice of Abraham, The Sibyl and Augustus, and The Savior and Apostles.

The Art of the Marches.—In *Rass. d'Arte*, XVI, 1916, pp. 223–231 (4 figs.),

A. COLASANTI publishes three paintings that are of interest in the history of the art of the Marches. (1) One of these is a painting of the Madonna della Misericordia in the church dell' Ospedale, Montefiorito. This painting, which has been badly restored, still retains enough of its original appearance to be recognized as a work of Giovanni Santi. It is a replica, with some variations, of the picture executed by Santi for the Oliva family in the church of Montefiorentino and of the great fresco painted in the church of S. Domenico in Cagli. The date of the work is unknown, but it is probably assignable to the last period of the artist's activity, when he showed most strongly the influence of Pietro Perugino. (2) A painting of the Adoration of the Magi, belonging to Miguel Utrillo of Sitges (Barcelona), proves that the extensive influence of Gentile da Fabriano was exercised not only, as hitherto recognized, upon many contemporary painters in Venice, Tuscany, the Marches, and Latium, but that it also reached to Spain. For the painting here published is plainly a copy by a mediocre Catalan artist of the middle of the fifteenth century of Gentile's Adoration of the Magi. Of little interest esthetically, the painting is important as a new proof of the prevalence of Sienese influence in Catalan painting in the fifteenth century. (3) The head of a martyr discovered on a wall of the Caccialupi Chapel, annexed to the church of S. Maria del Mercato in Sanseverino, is easily attributed to Lorenzo Salimbeni. It is in the mature style of the artist, indicating that the decoration of the chapel belongs to the time immediately preceding Lorenzo's departure from Sanseverino to work with his brother on the *oratorio urbinato* of S. Giovanni Battista.

The Gallery of Urbino.—In his discussion of the collection of paintings in the Gallery of Urbino J. ALAZARD (*Gaz. B.-A.* XIII, 1917, pp. 253-264; 10 figs.) demonstrates its importance for the study of the art of the Marches in the fourteenth and fifteenth centuries and for an understanding of the historic importance of Federigo Barroccio in the sixteenth century. In the entrance court of the ducal palace are frescoes by celebrated artists of the third quarter of the fifteenth century, under the direction of the Tuscan, Luciano Laurana. One room of the Gallery is devoted to the fourteenth century. Among the artists who followed the Giottesque tradition in the Marches, Giovanni Baronzi da Rimini is represented by an important polyptych. A Madonna by Allegretto Nuzi is a good example of the Sienese influence. The influence of French miniatures is seen in the work of Lorenzo and Jacopo da Salimbeni from the beginning of the fifteenth century. In the painting signed by Antonio da Ferrara in 1432 this French influence is combined with characteristics of the school of Ferrara. The fifteenth century room gives a history of the activity in the epoch of Federigo da Montefeltro. Many great artists were called to the court of Urbino at this time, among whom were Paolo Uccello, Piero della Francesca, Justus von Ghent, Giovanni Santi, and Melozzo da Forlì, and all are here represented by characteristic works. The sixteenth century division contains, besides some comparatively unimportant examples of Titian, works by Barroccio that are of the greatest moment in establishing the almost modern manner of that artist and his high place in the evolution of the art of the sixteenth century.

The Iconography of the Loreto Legend.—In *Rass. d'Arte*, XVI, 1916, pp. 265-274 (12 figs.), C. RICCI publishes paintings and prints relative to the iconography of the Loreto legend. These pictures, all of which represent the

Madonna under a baldachin or in a temple-like structure being lifted by angels, lead to two conclusions: First, that this iconographic subject—the transportation of the Madonna in her temple—was represented frequently in the sixteenth century, and nearly abandoned afterwards, when the translation of the Holy House was the subject chosen; second, according to the provenance of these pictures, the subject was much more popular in southern than in northern Italy.

A Female Portrait in the Borghese Gallery.—A mistake in regard to the identity of the model of the St. Catherine in the Borghese Gallery is corrected by G. CANTALAMESSA in *Rass. d'Arte*, XVI, 1916, pp. 187–191 (3 figs.). Of the various attributions of authorship, the general one, to the Florentine school, is here accepted. But the recognition in the model of Maddalena Strozzi, wife of Agnolo Doni, in which Morelli and Venturi agree, is shown to be incorrect. The similarity of the landscape background framed by two columns to that in the Louvre example of Raphael's study for the Doni portrait, as well as a general resemblance of face and pose to Raphael's portrait of the lady, suggested this identification. But careful comparisons of the features of the two paintings discover essential dissimilarities, the most striking of which is the difference in the color of the eyes; one has brown eyes, the other blue. The hands and the wheel in the Borghese painting are far inferior to the rest of the picture and must have been done by another artist. It seems likely that the original painting was a portrait, which was changed later into a representation of the saint.

A Small Crucifixion by Piero della Francesca.—A Crucifixion by Piero della Francesca is discussed by A. POPE in *Art in America*, 1917, pp. 217–220 (pl.). The painting, owned by Mr. C. W. Hamilton of Great Neck, Long Island, was formerly in the Colonna collection in Rome, and has recently been lent for exhibition at the Fogg Museum of Harvard University. It is one of the two extant paintings by Piero in which a gold background is used, the other being the polyptych of the Misericordia at Borgo San Sepolcro. With the exception of this polyptych, the Crucifixion is probably the earliest extant painting on panel by the artist. Through comparison with other paintings by Piero, its date seems between 1460 and 1465, or somewhat earlier. The lively play of bright color framed in by the characteristic pearly-gray recalls more vividly than most of his work the artist's pupilage under Domenico Veneziano. The lack of precise and subtle treatment that one finds here in contrast to the firm and definite handling of Piero's frescoes is probably to be explained by the fact that the medium used was too thick to admit of delicate modeling and delineation on a small scale. The conception of the subject is noble and dignified, placing the work among the finest representations of the Crucifixion. The design of the composition shows the greatest skill. And as always in his work, the first care of the painter here has been to produce a beautiful decoration of a flat surface. But the decorative effect is not the sole attainment; the dramatic interest also is strong.

The School of Piero della Francesca in the Environs of Arezzo.—The group of artists which collected around Piero della Francesca when he came to Arezzo in 1452 to finish the work of Bicci di Lorenzo in the choir of San Francesco include Lorentino d'Arezzo, Luca Signorelli, Lazzaro Vasari, and Perugino. The first two of these—where their work shows the influence of Piero—are

discussed by M. SALMI in *Rass. d'Arte*, XVI, 1916, pp. 168-174 (9 figs.). By means of documentary records and paintings that are still extant it is possible to reconstruct the activity of Lorentino, beginning with an Annunciation in the parish church of San Polo, near Arezzo, which shows much less of the influence of Piero than do later works, e.g., the Visitation in the chapel of S. Francesco, Arezzo. A very interesting fresco of the Annunciation in the chapel of the Casa da Monte, Gragnone, is assigned to the early years of Signorelli's activity. It unites the calm, monumental influence of Piero with the robust treatment of Luca.

A Fresco by Timoteo della Vite in Fossombrone.—In *Rass. d'Arte*, XVI, 1916, pp. 166-167 (fig.), G. BERNARDINI reports a study of the Crucifixion in the chapel of the Vescovado in Fossombrone that confirms its attribution to Timoteo della Vite. It is a work of his youth, when his inexperience is still betrayed in various details. The date, 1493, is on the picture.

The Date of the Triptych of Stefano Giordano in Messina.—G. M. COLUMBA in *Boll. Arte*, XI, 1917, pp. 33-34, and E. MAUCERI in *Cronaca delle Belle Arti*, IV, 1917, pp. 34-35, carry on their debate regarding the date of the Giordano triptych in Messina, Columba contending that there is no reason for rejecting the date 1538-40 given by La Farina, and Mauceri explaining that only the date 1540 is given in the signature of the artist. Mauceri cites a recent note of La Corte Cailler, where an inscription (not the signature of the artist) is mentioned which explains the origin of La Farina's date 1538.

A Carpacciesque Madonna.—The discussion by B. BERENSON in *Rass. d'Arte*, XVI, 1916, pp. 123-129 (5 figs.), of a Madonna in the Kaiser Friedrich Museum, Berlin, is an exposition of the futility of art criticism that puts too much faith in signatures and fails to take careful account of chronology. The painting in question is signed *Jacobus Palma*, and is attributed in the Berlin catalogue to the very early life of Palma. This, as well as other conjectures by the Berlin authorities, apropos of this picture, as to influences upon Palma is shown to be incorrect. The painting is clearly the work of a follower of Carpaccio who knew the work of Giorgione, and it is to be dated in the early sixteenth century.

Raphael and the "Coronation" of Monteluca.—New documents relative to the painting of the "Coronation," formerly in the monastery of the Poor Clares at Monteluca near Perugia and now in the Vatican (Fig. 3) are published by U. GNOLI in *Boll. Arte*, XI, 1917, pp. 133-154 (2 pls.; 6 figs.). The original contract, made in 1505, specified that the work was to be done by Raphael and was to be similar in all details to the painting of the Coronation in the church of San Girolamo in Narni. That this painting at Narni by Ghirlandajo made a special appeal to the Osservanti is further shown by copies, more or less close, in Todi, Trevi, and Narnia. A second contract for the Monteluca painting made in 1516 divided the work between Raphael and Berto di Giovanni. At this time Raphael had made only the design for the painting. When in 1523, after the death of Raphael, the third contract was made, the drawing was still the only part completed. Giulio Romano, Giovan Francesco Penni, and Berto di Giovanni finally completed the work, basing their painting upon Raphael's design. It was completed and installed in the place for which it was intended in 1525.

The Portrait of Correggio.—Since Vasari wrote that he had searched in vain

for a portrait of Correggio, a surprisingly large number of alleged portraits have been brought forward, as is shown by C. RICCI in *Rass. d'Arte*, XVII, 1917, pp. 55-67 (16 figs.). To the list of those already known Ricci offers one from Correggio's fresco in the cupola of the Duomo of Parma as a candidate for a "self-portrait" of the master. The face is that of a man of about forty years, the age of Correggio when he was working on the fresco.

Not only does it resemble the more plausible examples previously known, but the contrast between its realism and the ideal, fanciful faces surrounding it in the fresco, together with the contemporary custom of painting "self-portraits" in frescoes, lends credence to the identification as a beautiful portrait of the master.

The Painter of the Carrand Triptych—Giovanni di Francesco.—In *Rass. d'Arte*, XVII, 1917, pp. 1-4 (3 figs.), P. TOESCA publishes a painting which establishes the authorship of the triptych of the Carrand collection and consequently of a number of other



FIGURE 3.—CORONATION OF THE VIRGIN FROM MONTELUCE.

works which for stylistic reasons have been attributed to the same master. This painting is a lunette over the door of the church of the Innocenti at Florence. The fresco, indisputably by the same master as the Carrand triptych, is by documentary evidence shown to be the work of Giovanni di Fran-

cesco del Cervelliera in 1458-59. Giovanni's period of activity seems to have been short, extending from about 1446 to 1459, so that little development is seen in his work. He was not an innovator; he followed the manner of others, particularly of Andrea del Castagno and Domenico Veneziano.

An Early Fresco by Ghirlandajo.—A fresco discussed by G. H. EDGELL in *Art in America*, V, pp. 293-299 (3 figs.), has the distinction of being probably the earliest known fresco by Ghirlandajo. It was purchased in 1905 by E. W. Forbes, director of the Fogg Museum, from Sig. Luigi Grassi at Florence. The subject is a kneeling Madonna, obviously a fragment of an Annunciation. The treatment is delicate and sensitive, the colors subdued and harmonious, and the general effect is more pleasing and less pompous than in Ghirlandajo's later work. The attribution as well as the date, 1475, or slightly earlier, was arrived at wholly upon internal evidence and the close relationship with Ghirlandajo's frescoes in the Chapel of Santa Fina in the Collegiata at San Gimignano. Subsequently, the provenance of the painting was discovered. The fragment was a part of the decoration of the Villa Michelozzi in the same town with the Santa Fina frescoes, San Gimignano.

Albertino and Martino Piazza da Lodi.—In her study of the paintings attributed to the two Piazza brothers (*L'Arte*, XX, 1917, pp. 140-158; 7 figs.), E. FERRARI establishes a basis for distinguishing between the work of the two, who frequently worked together on the same painting. Martino Piazza, the less interesting of the two, developed under Venetian influence. A realistic, portrait-like style characterizes his figures, and vast landscapes, abounding in linear and aerial perspective, form his backgrounds. Albertino was a follower of Leonardo and Raphael and was successful in reproducing their outward forms if not the essence of their art. Though not a genius, he was a good painter of delicate, ideal figures.

A Window of San Giovanni in Monte at Bologna.—In *Boll. Arte*, XI, 1917, pp. 82-90 (3 figs.), G. ZUCCHINI changes the attribution of a window, representing St. John the Evangelist, in the façade of the church of San Giovanni in Monte at Bologna. On the basis of style and the signature, *Ca. F.*, the work has been assigned to Francesco Cossa. But, aside from the fact that such an abbreviation of signature is unprecedented in the fifteenth century, documents prove that the work was neither executed nor designed until after the death of Cossa in 1478. However, the design shows characteristics of the school of Cossa, and particularly of Ercole da Ferrara, to whom it may reasonably be attributed, while the execution of the work is probably to be assigned to the Cabrini brothers, the *Ca. F.* being explained as an abbreviation of *Ca(brini) F(ecerunt)* or *F(ecit)*.

Brescian Work of the Cinquecento.—In *L'Arte*, XX, 1917, pp. 99-114 (4 figs.), R. LONGHI presents a study of some questions dealing with Brescian art activity in the first decades of the sixteenth century. This period is particularly important, because in it were matured through diverse means all the germs of later painting in Brescia. The principal part of the study is devoted to Romanino, Moretto, and Savoldo, and their relationships with the Venetian school.

New Studies on Bernini.—In *L'Arte*, XX, 1917, pp. 45-51 (3 figs.), A. MUÑOZ continues his studies on Bernini published *ibid.* 1916. The publication of a painting of San Giuseppe with the Child Jesus in the Palazzo Chigi in

Ariccia (Fig. 4) is of especial interest because, though documents cite a number of works in this medium, it is the only extant painting that can be attributed with certainty to Bernini. The extensiveness of Bernini's projects for city decoration is illustrated by extracts from the *Journal du voyage du Cavalier Bernin en France* by M. de Chantelou which tell of Bernini's plans for removing

Trajan's column into the square where the Antonine column stands. Another document cited by Muñoz describes the former situation of the sculptured group of Neptune (now in England) in the magnificent fountain (la Peschiera) of the Villa Massimo in Rome.

On the Subject of Sandro Botticelli's "Primavera."—As a proof of the correctness of the somewhat disputed title of Botticelli's great painting, "Primavera," P. D'ANCONA (*L'Arte*, XX, 1917, pp. 38-40; fig.) offers a miniature illustration from an *Opus de Sphaera* in

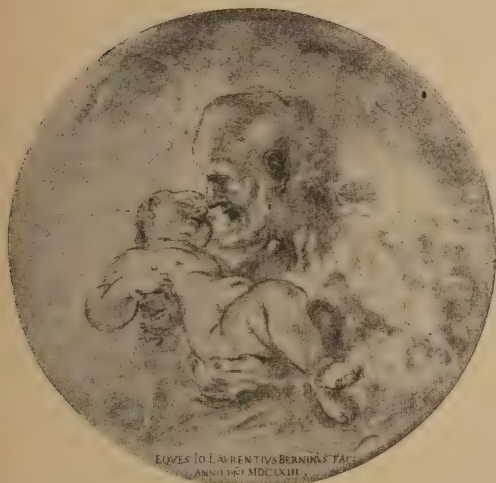


FIGURE 4.—SAN GIUSEPPE BY BERNINI.

verse attributed to the last quarter of the fifteenth century and now in the Biblioteca Laurenziana. While lacking all the allegorical and mythical adornment of Botticelli's composition, there recur in this modest little miniature, the purpose of which is to illustrate verses describing the springtime, the female figure and flowers, elements essential to the traditional designation of spring.

Titian's "Fountain of Love."—A new and interesting interpretation of Titian's Sacred and Profane Love is given by L. HOURTICQ in *Gaz. B.-A.* XIII, 1917, pp. 288-298 (pl.; 3 figs.). The literary inspiration of the work is sought, not as before, in some ancient work with which there is little chance of the artist's having been familiar, but in the famous *Hyperotomachia Poliphili* of Francesco Colonna, which appeared in Venice in 1499, and which is a type of writing that must have appealed to a young artist of Titian's nature. A description given here of the visit of Poliphilus and Polia to the tomb of Adonis includes a number of details that are found in Titian's painting. To be sure, the picture is in no sense a literary illustration of the *Hyperotomachia*, but the bas-reliefs on the basin, Venus holding aloft a vase in which are presumably drops of the blood of Adonis, the little cupid gathering roses from the basin, and the young girl to whom Venus is directing her discourse on love are all described therein. Further, the relationship of the theme of the painting to the artist's own life is convincingly established by finding the model of the young woman in Violante, the daughter of Palma Vecchio, for whom, tradi-

tion tells us, Titian had a youthful love. It would seem, then, that Titian would fancy himself to have secured the favor of the goddess of love to plead his cause to his beloved.

An Early Work of Lucio Picinino.—In *Burl. Mag.* XXXI, 1917, pp. 26–30 (2 figs.) G. LAKING attributes to Lucio Picinino of Milan a fine oval pageant shield in the Drury-Fortnum bequest to the Ashmolean Museum, Oxford. The central motive of the shield is a Medusa head, not characterized by the usual heroic female beauty of the Gorgon's head, but by a corpse-like appearance, with staring eyes, weak chin, and half-open dead mouth. The modeling is splendid and the conception ranks the shield with the works of the great Negroli family of Milan. Indeed, it is quite evident that the Ashmolean shield is modeled closely after one in the Royal Armory at Madrid signed by the Negroli brothers and dated 1541—the finest pageant shield in existence. But the attribution of the Ashmolean shield to Picinino rather than to the Negroli is based principally upon the method by which the gold enrichment is added. The method used in the Ashmolean shield is used in other early works by Picinino and seems to be a process known earlier to Bartolomeo Campi, but at this time only to Picinino himself. The use of a mandrake tendril below the Medusa head and the treatment of the intertwined snake ornament at the outer edge of the shield are also characteristic of Picinino. While Picinino in his latest manner showed a decidedly decadent, over-elaborate tendency, his first manner, to which this work is assigned, was quite free from this defect.

Notes on the Museo Nazionale of Florence.—Fragments of a series of Renaissance representations of Greek and Roman heroes by Antonio Lombardi are discussed by G. DE NICOLA in *Burl. Mag.* XXXI, 1917, pp. 174–177 (pl.). A number of reliefs ascribed by Bode and Schlosser to Antonio evidently belong to a single series, which, in all probability, originally decorated the "Camerina d'Alabastro" which Alphonso d'Este constructed in the castle of Ferrara. To the same series and to the same sculptor, Antonio Lombardi, must belong three other marbles, one representing Antony and Cleopatra, in Sir Frederick Cook's collection, and two, representing Mucius Scaevola and Achilles (?), in the Museo Nazionale of Florence.

Ercole da Ferrara and Ercole da Bologna.—In *Boll. Arte*, XI, 1917, pp. 49–63 (5 figs.), F. FILIPPINI throws light upon the question of the artists by the name of Ercole. Ercole Grandi and Ercole Roberti are shown to be identical. This Ercole, also called Ercole da Ferrara, was a disciple of Cossa and worked both as a painter and as an architect. It was he who designed the basilica of S. Maria in Vado and the equestrian monument of Duke Ercole I. Among his paintings are the great frescoes of the Garganelli chapel. The analogy between the architectural background of these frescoes and the style of S. Maria in Vado is striking. A second Ercole, however, is identified through documentary and stylistic means. Ercole da Bologna, pupil of Costa, has been wholly eclipsed by the greater Ercole da Ferrara. Records of his work show him to have been of no small importance. It seems, indeed, that it was he who worked with Mazzolino in Ferrara in the Este palace. If the present attribution to him of works formerly ascribed to the sculptor, Chiodarolo, is correct, he may quite appropriately be styled the Bolognese Perugino.

The Design by Ercole Grandi for the Monument of Ercole I d'Este.—In *L'Arte*, XX, 1917, pp. 159–167 (fig.), D. ZUCCARINI discusses the plans for

an equestrian monument of Ercole I d'Este which was to have been erected in the Piazza Nova, Ferrara. A design for the monument, showing the equestrian statue surmounting two columns, is attributed by Alfonso Maresti to Giovanni Contrari. Documentary evidence exposes the impossibility of this attribution, and an examination of the drawing shows an identity of origin with the architectural designs of Ercole Grandi, court painter in Ferrara. It was to him that the duke confided the design of his monument and of S. Maria in Vado, as well as the more important pictorial works.

The Angels of Silvio Cosini in the Duomo of Pisa.—In *Boll. Arte*, XI, 1917, pp. 111-132 (2 pls.; 8 figs.), P. Bacci publishes documents which throw light upon the life and work of Silvio Cosini. Though the places and dates of his birth and death are still uncertain, much of his art activity may be followed.

The two angels bearing candelabra in the Duomo of Pisa (Fig. 5), here published for the first time, were begun in 1528 and finished in 1530. These splendid figures demonstrate the independence and originality of their author, whom Michelangelo commended in entrusting to him some decorative work in the Medici Chapel of S. Lorenzo.

The Tondos in the Court of the Palazzo Riccardi.—In *L'Arte*, XX, 1917, pp. 19-30 (17 figs.), A. Foratti gives the results of his



FIGURE 5.—AN ANGEL BY SILVIO COSINI.

study of the eight tondos decorating the frieze of the court of the Medici palace, the Palazzo Riccardi in Florence. In his life of Donatello Vasari describes these marble tondos as copies of antique cameos and reverses of medals. And indeed most exact prototypes are found in collections of

antique gems, particularly in the museum of Naples. The authorship of the Riccardi medallions must be determined by study of their stylistic qualities. Some critics see in them the work of Donatello himself, others, without offering any specific names, assign the work to the school of that master. Venturi believes them to be the work of Bertaldo, and the present writer follows this critic's judgment in regard to three of the tondos. But the other five show the mechanically imitative characteristics of Maso di Bartolomeo, a minor collaborator of Donatello and Michelozzo.

Engravers of the First Half of the Seventeenth Century.—In *L'Arte*, XX, 1917, pp. 31-37 (6 figs.), F. HERMANIN discusses a group of engravers, centering about the Florentine engraver and architect, Giulio Parigi, of the first half of the seventeenth century. One of the important figures in the group is the French artist, Jacques Callot, who shows the influence of the Tuscan master not only in his ability to engrave, but in the whole spirit of his art. Callot was influenced also by Remigio Cantagallina, another pupil of Parigi, who was perhaps the first among Italian engravers to produce minute landscapes in which the natural forms and the figures are united into harmonious compositions and the light and shade are successfully handled. Callot had both French and Italian followers. Israël Silvestre, among the French, won special fame, while among the Italian, the Florentine Stefano della Bella, is most celebrated. He was a faithful but not servile follower of the French master, and he was the first in Italy to produce engravings in which the air and light are given the importance that is accorded them in painting. Ercole Bazicaluva, a follower of Cantagallina and his fellow-pupil under Parigi, is also important for his luminous treatment of atmosphere.

Notes on Italian Medals.—In *Burl. Mag.* XXXI, 1917, pp. 99-105 (2 pls.), five groups of medals are discussed by B. F. HILL. (1) Two medals with the portrait of Maria Poliziana are average specimens of the school of Niccolò Fiorentino and date from about 1494. A third is of less interest but worthy of note for the variety it presents in the design of its reverse. (2) Four anonymous Florentine portraits of varying degrees of excellence are attributed, one to Niccolò Fiorentino himself, and the others to his more or less immediate neighborhood. (3) Comparison with works by Maffeo Olivieri makes plausible the ascription to that artist of Marcus Curtius leaping into the fiery gulf, a cast from a reverse in Mr. Maurice Rosenheim's collection. (4) It is wholly upon the basis of style again that a portrait of Andrea Caraffa in the British Museum is attributed to Girolamo Santacroce. (5) A medal in the Goethe collection at Weimar, representing Gianfrancesco Gratt—and his wife Franceschina, is tentatively attributed to the Bolognese medallists of the transition between Francia and Zacchi. *Ibid.* XXXI, 1917, pp. 178-183 (pl.), the same writer describes the technique of the Renaissance medal. Since medals struck with engraved dies were uncommon before the seventeenth century, the process of casting is the one considered here. The material and methods used in building up the model and making the mould and the finished cast are described.

SPAIN

The Mendoza and the Renaissance.—In *B. Soc. Esp.* XXV, 1917, pp. 51-65, 114-121 (3 pls.), E. TORMO begins a study of the activity of the Mendoza

family in bringing the Italian Renaissance into Spain. A notable result of their devotion to the new movement is visible in the tomb of the second Cardinal Mendoza, D. Diego. This was commissioned by his brother, D. Íñigo, second Count of Tendille, and in place before 1509 in the Capilla de la Antigua of the Cathedral of Seville. It is attributed to Dominico Fancelli (died 1518) and is a typical example of an Italian tomb of the full-blown Renaissance. El Gran Tendilla also had things for himself as testify the well known medal of honor by Niccolò Fiorentino, dated 1486, and a sword solemnly presented by Pope Innocent VIII to him as defender of the faith in that same year. This family with its firm internal adhesion and its political and ecclesiastical connections with Italy brought a fruitful impetus to the Spanish Renaissance.

The Style of El Greco.
—In *B. Soc. Esp.* XXV, 1917, pp. 17-21 (pl.), N. SENTENACH discusses, apropos of a St. John Evangelist in the collection of the Marquis of Cerralbo (Fig. 6), the peculiarities of El Greco's chiaroscuro, forms, lines, etc.

Velazquez — Mazo.—After giving a brief résumé of the recent critical studies in Spanish art through which a number of works previously attributed to Velazquez have been reassigned to his pupil and close imitator, Mazo, A. DE BERUETE Y MORET (*Gaz. B.-A.* XIII, 1917, pp. 236-252; pl.; 5 figs.) discusses two portraits of the Admiral Pulido Pareja which add much interest to the Velazquez-Mazo question. One of these, in the National Gallery, London, has been generally accepted as a genuine Velazquez. A few years ago de Beruete challenged the attribution, ascribing the work to Mazo. Now he brings forward a little known portrait of the Admiral in the collection of the Duke of Bedford, Woburn Abbey, a painting which proves to be an original Velazquez from which the National Gallery portrait was copied by Mazo.



FIGURE 6.—ST. JOHN BY EL GRECO.

FRANCE

Jean Hannecart, Painter to Charles the Bold.—In *Gaz. B.-A.* XIII, 1917, pp. 155-172 (pl.; 6 figs.), H. MARTIN publishes some illuminations by Jean Hannecart, three miniatures of a manuscript in the Bibliothèque de l'Arsenal, containing a moral treatise, entitled *Instruction d'un jeune prince pour se bien gouverner envers Dieu et le monde*. The work was done for Charles the Bold, and certain monograms connected with events in the duke's life fix the date of the commencement of the work between July, 1467 and July, 1468, and its completion after the later date. In his statement of the receipt of payment for the work the artist says that he has decorated two manuscripts with identical sets of miniatures. The Arsenal manuscript corresponds to his careful description, but the second example is unknown. (A manuscript in the Bibliothèque National is illustrated by miniatures copied in part from Hannecart's). The second and third miniatures in the Arsenal manuscript betray some collaboration of assistants, but the first, which represents the king of Norway on his death-bed ordering the author to compose the *Instruction d'un jeune prince*, may be taken as a fine example of Jean Hannecart's work. It justifies his place as favorite painter to Charles the Bold and his father, Philip the Good. He was not merely an illuminator. He was a painter and decorator on a larger scale, and in his modeling and drawing was superior to all illuminators of his day.

BELGIUM AND HOLLAND

The Road to Rome.—In the *Print Collector's Quarterly*, VII, 1917, pp. 333-360 (13 figs.), W. A. BRADLEY writes under the title, 'The Road to Rome,' on a number of etchings that illustrate the influence which the Roman journey of sixteenth and seventeenth century artists had on their works. The landscapes and ruins of Seghers, Rembrandt, Elsheimer, Uytenbroeck, Poelenberg, Claude, Both, and others, show what this pilgrimage meant to them.

Fructus Belli—Tapestries after Cartoons by Giulio Romano.—In *Les Arts*, No. 159, 1917, pp. 8-13 (4 pls.; 2 figs.), M. VAUCAIRE publishes a series of tapestries based on Giulio Romano's cartoons representing The Fruits of War. The eight tapestries, made in Brussels, were given to Mazarin by Don Luis de Haro in the name of the King of Spain at the conclusion of the Peace of the Pyrenees. Under Louis XIV direct copies in low warp were made from the tapestries belonging to Mazarin. These copies are now in the collection of the *Mobilier National* and are in very good condition. The Louvre has four cartoons by Giulio Romano, three of which served for the Fructus Belli tapestries. They were acquired by Louis XVI in 1786, coming through various hands from the pillage of the palace of the dukes of Mantua in 1630.

A Musical Party by Pieter de Hooch.—In *Art in America*, V, 1917, pp. 241-246 (pl.), M. W. BROCKWELL publishes 'A Musical Party by Pieter de Hooch,' lately acquired by Mr. J. N. Willys of Toledo. For over fifty years nothing seems to have been known of the painting. The first record of it is in 1862 in the *Catalogue of the Gallery of Pictures collected by Edmund Higginson of Saltmarshe* where a description of the picture is given. The painting is neither signed nor dated, but doubt of its authenticity is impossible. The approximate date assigned is 1667. Certain figures and accessory details which occur here are almost identical with those in other works by the master,

and his usual play of light and perfection of composition characterize this work. So masterfully is every line and mass placed that no detail could be omitted without detriment to the composition. Not an intellectual or moral, but a pictorial effect is the principal aim and achievement.

GERMANY

Holbein's Portrait of a Musician.—In *Art in America*, V, 1917, pp. 255-259 (pl.), A. POPE publishes Holbein's Portrait of a Musician, recently acquired by Mr. Henry Goldman of New York from the collection of Sir John Ramsden, Bt., of Bulstrode Parke, Buckinghamshire. The work has been given several earlier publications and discussions. The present writer rejects, without offering an alternative, the identifications of the sitter that have been suggested. The lustrous enamel surface is in splendid condition. The coloring is rather lighter and gayer than usual in Holbein's portraits of men, but it is distinctly his own; and the details are treated with his usual thoroughness but with due subordination. In characterization, design, and technical finish this portrait shows Holbein at his best, and is to be dated about 1532-1535. A discussion follows of Holbein's method of procedure in his work and of his position as the chief exponent of an international style of portrait painting in the early sixteenth century.

GREAT BRITAIN

A Sixteenth Century Inlaid Box.—In *Burl. Mag.* XXXI, 1917, p. 13 (pl.), H. CLIFFORD-SMITH publishes a small sixteenth century marquetry box belonging to Mr. G. P. Dudley Wallis. It is of a type of which there are a number of examples in early English furniture, inspired by Eastern designs. The inlay decoration consists of floral scrollwork and delicate floriated sprays springing from vases or baskets, beside which are perched small birds. The work is apparently that of either an Anglicized Spaniard or a talented craftsman working under Spanish influence.

"A Horselydown Wedding."—A brief study of the development of genre painting in the sixteenth century is made by F. M. KELLY in *Burl. Mag.* XXXI, 1917, pp. 89-91 (pl.) in his article on "A Horselydown Wedding" (property of the Marquis of Salisbury) painted by Joris Hoefnagel. This picture, once described for some inexplicable reason, as representing the marriage of Henry VIII and Anne Boleyn, then as Horselydown Fair, and now known as "A Marriage-Fête at Bermondsey," is one of the earliest examples of genre painting pure and simple, without the introduction of some traditional subject as a pretext. For its unaffected cheerfulness and its lively representation of an average English gathering of middle-class types of society it is probably unsurpassed.

UNITED STATES

The Holden Collection of Paintings.—In the Cleveland Museum of Art an important place is filled by the Liberty E. Holden collection of Italian paintings (*A. J. A.* XXI, 1917, p. 207). The Museum has published a special, illustrated catalogue of this collection prepared by Miss STELLA RUBINSTEIN, in which 43 paintings of the Italian Schools and a few by northern artists are carefully described. [*Catalogue of a Collection of Paintings, etc. presented by*

Mrs. Liberty E. Holden to the Cleveland Museum of Art. By Miss STELLA RUBINSTEIN. Cleveland, 1917, The Cleveland Museum of Art. 68 pp.; 19 figs. 8 vo.]

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

Archaeological Remains in Western Washington and Adjacent British Columbia.—In *Proceedings of the California Academy of Sciences*, Fourth Series, Vol. VII, No. 1, pp. 1-31 (6 pls.; 3 maps), ALBERT B. REAGAN describes archaeological remains in the Olympic Peninsula (the Quillayute region, the Hoh region, the Ozette-Makah region, the Strait of Fuca and Sound region), the Lummi-Nooksack region, and the adjacent part of British Columbia. Middens, burial mounds, and oven mounds are numerous. In the Quillayute, Hoh, and Lummi-Nooksack regions no traces of other races than the present inhabitants were found. In the others several races seem to have lived in succession. Few stone implements were found, and implements of other materials, except shell, have suffered greatly from the effects of time. Several Quillayute myths are given, and the history of the regions since their discovery by white men is briefly sketched.

The Cult of the Cross among the North American Indians.—In *R. Hist. Rel.* LXXIV, 1916, pp. 64-87 (7 figs.), P. SAINTYVES discusses the cult of the cross among the Mound Builders, the Gaspe Indians, the Dakotas, the Ojibwas, the Navajos, and the Indians of California. It was employed in certain rituals, was sometimes associated with totems such as the porcupine, eagle, dragonfly, etc. and was also regarded as an emblem capable of attracting cosmic forces.

The War-bundles of the Winnebago Indians.—In *Z. Ethn.* XLVI, 1914, pp. 404-420 (8 figs.), E. W. LENDERS narrates in full the myth of the sacred "war-club-bundle" of the Winnebago Indians of Nebraska, and describes the contents of three of these bundles. Fire-drills, knives, lance-points, drumsticks, flutes, tobacco-pipes, eagle feathers, skins and tails of various animals were used in forming them, and such war-bundles were supposed to make their possessors invincible in war and successful in hunting.

The North American Collections of the Berlin Museum.—In *Z. Ethn.* XLVI, 1914, pp. 678-745 (12 figs.), W. KRICKEBERG gives an account of new accessions to the North American collections of the Royal Museum of Ethnology in Berlin, dwelling especially on wooden and wicker coats-of-mail used before the introduction of firearms by the Eskimos and North American Indians as protection against arrows and spears.

The Age of Man in South America.—In *Z. Ethn.* XLVI, 1914, pp. 249-266, H. VON IHERING from a purely geological and palaeontological point of view treats of the age of man in South America.

Lake Dwellings in Venezuela.—In *Z. Ethn.* XLVI, 1914, pp. 267-283 (5 figs.), A. JAHN describes lake dwellings in Venezuela (Little Venice) on the shores of Lake Maracaibo.

A Creation Myth of the Indians of Paraguay.—In *Z. Ethn.* XLVI, 1914, pp. 284-403 (14 figs.), CURT NIMUENDAJÚ UNKEL treats of the myth of the creation and destruction of the world as the basis of the religion of the Apocóva-Guaraní of Paraguay.

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GENERAL AND MISCELLANEOUS

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A THIRD CENTURY ETRUSCAN TOMB¹

THE objects here published were acquired in 1913 by the Museum of Fine Arts, Boston. They are said to have constituted the complete equipment of a tomb at Chiusi. Since nothing in the nature of the objects contradicts this statement, it may be accepted as a working basis.

I. THE CINERARY URN

The urn (No. 13.2860)² is of the usual late Etruscan form (Figs. 1 and 2). The material is travertine, the lid being smoother and less porous than the chest. The chest is 51.5 cm. high, 71 by 36 cm. at the bottom, 63 by 30 cm. at the top, and the lid 75.7 cm. long, 34.7 cm. wide, and 52.5 cm. high. A small spot on the back of the lid is restored and the ends of the chest below the panels are slightly damaged. Otherwise the condition of the urn is excellent and a great deal of the paint remains.

On the lid a woman wearing a low necked, sleeveless tunic held in by a belt reclines upon two cushions. A veil falls from her head over her shoulders, her right hand holds the folds of a mantle which is draped over her legs, and on her right foot, which protrudes slightly beyond the edge of the lid, is a sandal. Her waved hair is parted in front and held back by a narrow band. Around her neck is a torque and on her right arm two twisted bracelets; the one above the elbow is composed of two parallel rings, the one below, a spiral bracelet with S-shaped ends, encircles the wrist twice. A slight ridge on the third finger of the left hand may indicate a ring. An incised inscription extends across the front and part of the left end of the lid.

On the front of the chest in a sunk panel is a winged monster resting on a projecting base. It has the body of a youth and, instead of legs, two coiled fish-tails ending in double fins and covered at their juncture with the body with a fin-like girdle. On its forehead is a pair of small wings, in its left hand a sword, in its right a stone (?). Painted on the moulding above the panel is an egg-and-dart pattern; on each side a fluted column. A patera in a sunk panel decorates each end. The portion below the panels, on both front and

¹ I am deeply indebted to Mr. L. D. Caskey, Curator of Classical Antiquities in the Boston Museum of Fine Arts, for permission to publish this material, for his untiring assistance while I was studying the objects, and for most valuable suggestions. I also wish to thank Professor George H. Chase of Harvard University for his unfailing aid at every difficult point and for carefully reading the manuscript, and Miss G. M. A. Richter of the Metropolitan Museum, New York, whose keen criticism was most helpful.

² The numbers are those of the registry of the museum.

ends, is hewn into the form of a double scroll. The back of the chest is unadorned.

The color is distributed as follows: *black*, the background of the panels, the retreating areas below the scrolls at the bottom, the outline of the egg-and-dart pattern; *brown*, the woman's eyes and brows, the monster's hair, the outline of the capitals; *vivid sea-green*, the monster's fish-tails, the lower half of his wings and a border around the upper half, the wings on his forehead, the fluting of the columns, a broad band over the left end of each cushion, four (?) of the eggs on the moulding; *red*, the woman's hair, lips, and nostrils, the monster's lips, nostrils, eyes, and eyebrows, a longitudinal stripe on each fish-tail, the fins in which they terminate, two sections of the egg pattern, the background of the columns, parts of the capitals, the pattern on the scrolls below the relief, the letters of the inscription; *pink*, the veil, the mantle, two stripes enclosing the blue band on the cushions, the upper part of the monster's wings, the coiled extremities of his girdle, two sections of the egg pattern. There is no trace of color on the remaining portions.

As is well known, urns of this type, which are merely diminutive copies of the sarcophagi of the same period and are often found in the same tomb with them, were exceedingly popular in Southern Etruria during the third and second centuries B.C. The material was usually the local stone, which in the neighborhood of Chiusi is travertine, though terra-cotta was also used for both urns and sarcophagi. Comparatively few of the former are more than 80 cm. in length, the greater part ranging between 50 and 70 cm. Our urn is therefore exceptionally large. The projection of the lid beyond the ash-chest is not significant, for lids very often fail to fit the top of the urn upon which they rest.¹

Scenes borrowed from Greek legends form the subject of the reliefs on fully three-fourths of the Etruscan urns and sarcophagi, a few portray scenes from real life, but monsters of all sorts, which played an important rôle in the Etruscan conception of death, likewise occur frequently. Commonest among these is the type found on our urn, although the body is usually that of a woman.² They sometimes carry symbols of the sea, as an oar or a trident, or perhaps, as on our urn, a rock, a sword, or other weapon. These fish-legged monsters, whether of Etruscan or of Greek invention,³

¹ Dennis is doubtless correct in assuming that dealers kept a large supply of ash-chests on hand and that only the covers were made to order. Even these were perhaps blocked out roughly and finished when required (*Cities and Cemeteries of Etruria*, I, p. 480; cf. also Martha, *L'Art Étrusque*, pp. 366 ff.).

² Cf. Dennis, *op. cit.* II, pp. 171 f. For another example of a male cf. Dennis, *op. cit.* II, p. 160 = Martha, *op. cit.* p. 167, fig. 135.

³ Cf. Dennis, *op. cit.* II, p. 172; Chase, in *A.J.A.* XV, p. 477; G. Matthies, *Die Praenestinischen Spiegel*, p. 108.



FIGURE 1.—ETRUSCAN CINERARY URN: No. 13.2860.

appeared in Italian art late in the fourth or early in the third century B.C. and probably have as prototype the serpent-legged giant of which at least one example belongs to the end of the fifth century.¹

¹ Cf. Winnefeld, *Festschr. für Benndorf*, pp. 72 ff., pl. I; Matthies, *op. cit.* p. 108.

Columns frequently enclose the relief on the front of both urns and sarcophagi, and the egg-and-dart pattern is common both above and below the scene, but these decorations seem usually to have been worked out in relief. There is no uniform type of capital used on urns; the only point of general resemblance is the regular appearance of volutes.

The patera is a very common ornamental feature on these monuments. The back was rarely decorated, since it was designed to stand against a wall.

The effigy on the lid of our urn, a young woman of mature and graceful form and comely features, reclines, as these figures invariably do, on the left elbow as if at a banquet,¹ but it differs from most of those hitherto published in two important respects: first, the body is much better proportioned; second, the head is turned so as almost to present the profile when viewed from the front of the urn. I know of but one example that is analogous to ours in these two respects, namely, an urn in the Museo Archeologico in Florence (Alinari, No. 17065). Its effigy presents a very close parallel but is not quite so well executed. Most of these figures face the front; some even look toward the right.

Like all other figures on urns and sarcophagi of good workmanship, this one also is surely a portrait of the person whose remains were contained in the chest. The woman seems to have been painted to the life, a practice which was not unusual with figures that were well executed. If her flesh was tinted, as sometimes happened, the color has disappeared.² The paint on our urn is, however, much better preserved than is generally the case.³

Our urn then is not only larger and much better preserved than most of these monuments, but it is also of a distinctly superior type of workmanship. The proportions of the figure on the lid are excellent and the position natural and easy, characteristics which form a striking contrast to the grotesquely disproportionate effigies on the great mass of Etruscan urns. A quiet refinement of taste expressed in the dignified simplicity of dress and ornament separates our figure widely from most effigies of this kind with their burden of gaudy jewelry, and incongruous, conspicuous ob-

¹ Cf. Dennis, *op. cit.* I, p. 475, etc.

² Cf. Dennis, *op. cit.* I, p. 477, II, p. 376.

³ The polychrome system is best observed on the urns from Cetona, Città della Pieve, and Perugia. Cf. Dennis, *op. cit.* II, pp. 302, 360, 376, 446.



FIGURE 2.—ETRUSCAN CINERARY URN: NO. 13.2860.

jects in their hands, and a pensive expression of pathos and resignation lends to the face a singular charm.

The Inscription.—The inscription reads as follows:

FASTIA VELSI LARZL VELUS PUIA.

Fastia is a feminine praenomen which usually appears in the form *Fasti*.¹ The praenomen regularly occupies the first place in the proper name on an epitaph.²

Velsi, the second word, as both position and form³ suggest, is the family name of the woman's father. The patronymic always appears in the names of Etruscan women with the suffix *i* added.⁴ But the form *Vels*, which would here represent the gentile name, if *i* had been added with no further change, does not seem to appear as such in any known inscription.⁵ The *i* then of *Velsi* must be either a contraction of the final *i* of the gentile name with the suffix *i*, or the former has been supplanted by the latter, a change which occasionally takes place.⁶

The third word, *Larz*l,⁷ probably represents *Larz* and the suffix *al* with *a* omitted. The name which often stands third or fourth and ends in the suffix *al* is usually the mother's family name. Here, however, it appears to be the mother's praenomen.⁸

The form *Larz* may be regarded as another spelling for *Larθ*⁹ and is probably an abbreviated form of the full name *Larza*, just as *Larθ* represents *Larθa*, *Larθia*, or *Larθi*.¹⁰ The suffix *al* sig-

¹ Cf. Fabretti, *Glossarium Italicum*, cols. 446 f.; *Primo Suppl.* 173, 187, etc.; Martha *La Langue Étrusque*, pp. 149, 75 f.

² Cf. Müller, *Die Etrusker*, I, p. 508; Martha, *op. cit.* pp. 121 ff.

³ Cf. Müller, *op. cit.* II, p. 471; Martha, *op. cit.* pp. 75 f., 122.

⁴ Cf. Martha, *op. cit.* pp. 76, 122 f.

⁵ In the single instance in which this form occurs Fabretti, *Gloss. Ital.* col. 1918, thinks it may stand for *Velsi*.

⁶ Cf. Martha, *op. cit.* p. 76.

⁷ A small dot between *r* and *z* painted on the flat surface of the stone, not in a hollow chiselled for that purpose, may probably be attributed to carelessness on the part of the person who applied the paint, although words are occasionally separated into parts. Cf. e.g. Fabretti, *Corpus Inscriptionum Italicarum*, Nos. 1025, 1838.

⁸ Cf. Müller, *op. cit.* I, p. 508; Martha, *op. cit.* pp. 122 f. *Lar θi* seems in a few inscriptions to denote the gentile name. Cf. Fabretti, *Gloss. Ital.* col. 1010; Martha, *op. cit.* p. 142.

⁹ Cf. Müller, *op. cit.* I, p. 463; Martha, *op. cit.* pp. 52, 194.

¹⁰ Cf. Fabretti, *Gloss. Ital.* cols. 1004, 1006, 1007, 1010; Müller, *op. cit.* I, p. 463. The praenomen *Laris* with the feminine form *Larisa* is very closely related to this group. Cf. Fabretti, *Gloss. Ital.* cols. 1014 f.; Müller, *op. cit.* I, p. 464, No. 16; Martha, *op. cit.* pp. 77, 123.

nifies derivation or source and its use as the termination of the metronymic in epitaphs is extremely common.¹ *Fastia Velsi* then was the daughter of *Larza*. The omission of the *a* of the suffix is possibly an example of syncope but probably simply an abbreviation.²

The fourth word is composed of *Vel*, a form which appears very frequently as a masculine praenomen (sometimes written *Vele*),³ and the suffix *us* which has the same value as the genitive case in an inflected language. This relationship is ordinarily indicated by the ending *s* alone, but in some cases—regularly with *Vel*—a vowel is inserted.⁴ *Vel* or *Vele* would seem then to be the praenomen of *Fastia*'s husband. But the husband's family name, with or without his praenomen, not his praenomen alone, was the form regularly used in the epitaph of a married woman.⁵ Therefore, although I find no certain example of the employment of the simple form *Vel* or *Vele* with "genitive" in *us* as the name of a gens,⁶ I hold it more probable that this is a rare instance of such a use than that it is a praenomen used alone.

Puia, the last word, is fairly common on the tombs of women and in most cases, as here, apparently means "wife".⁷

The entire inscription, then, is to be interpreted as follows: *Fastia*, daughter of a *Velsi* and of *Larza*, and wife of a *Vel*.

II. SILVER

A. MIRRORS

1.—*Box-mirrors*: Two box-mirrors presenting the same scene in relief, the larger mirror (No. 13.2875) 14.3 cm. in diameter, the smaller (No. 13.2876) 11.3 cm., are of very thin silver plate, and in very good condition. The cover of each is bent back at the edge, forming a narrow rim which fits over the disk. The rim of the disk is also bent back and the under side is concave.

The scene on the larger mirror (Fig. 3) is enclosed by a decorative border in low relief, consisting of a scroll pattern on a punctuated background outside of a moulding with rope pattern.

The scene presents three figures in high relief going toward the left on a crescent. In the centre is Dionysus. His hair is twisted in a roll around his face and

¹ Cf. Müller, *op. cit.* I, p. 504, b, II, p. 493; Martha, *op. cit.* pp. 4-7.

² Cf. Müller, *op. cit.* I, p. 462, No. 15, II, pp. 343 f., 391 f.

³ Cf. Fabretti, *Gloss. Ital.* cols. 1903, 1906; Müller, *op. cit.* I, pp. 451 ff.

⁴ Cf. Martha, *op. cit.* pp. 28, 92; Müller, *op. cit.* I, p. 504.

⁵ Cf. Müller, *op. cit.* I, p. 452; Martha, *op. cit.* pp. 122 f.

⁶ Cf., however, Fabretti, *Corpus Inscriptionum Italicarum*, No. 2455.

⁷ Cf. Fabretti *Gloss. Ital.* cols. 1476 f.; Müller, *op. cit.* I, p. 503 c., II, p. 477; Martha, *op. cit.* pp. 2, 30, 149 ff.

down on his neck. Back of the roll a band encircles his head. He looks to the right and supports himself upon two smaller figures with his arms around their necks. On his feet are *endromides*. At the right is Eros, his hair arranged like that of Dionysus towards whom he turns his face, and in his left hand,

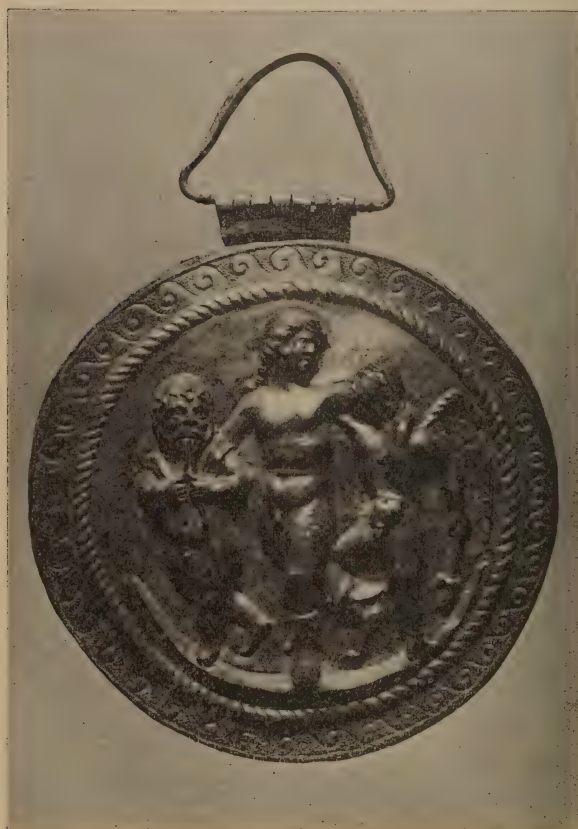


FIGURE 3.—SILVER BOX-MIRROR: No. 13.2875.

extended behind him, an inverted torch. His right arm and right leg disappear behind Dionysus, whose left hand is spread out over Eros' breast. A ridge just above the left ankle seems to mark the top of a shoe. To the left of Dionysus is a little, bald papposilenus playing a double flute. His head is marked by punctuation and crowned with an ivy wreath. Over his shoulders hangs a narrow skin. Two grooves around his left ankle suggest a shoe top, but the foot seems to be cloven. His right foot, however, looks human. A coating of gilt remains

on the decorative border, on the hair of all the figures, on Dionysus' boots, on the animal skin over Silenus' shoulders, on the flame of the torch, and on Eros' wings. A hinge, into the joint of which the ends of a handle for suspension are inserted, is attached to the rim of the disk alone, not to the cover as well so as to properly join the two portions. The rim has a few cracks and a very small piece is broken out.

The relief on the smaller mirror (Fig. 4) is on a separate disk 8.7 cm. in diameter which is made fast in a slightly retreating area on the convex surface of the lid. The execution is exceedingly poor, so that all details are lost. Con-

siderable patches of gold leaf indicate that the figures' heads and the animal skin over Silenus' shoulders were originally gilded. Eros' wing appears also to have been indicated by gilding. The portion of the cover surrounding the *emblema* is thickly covered with green encrustation. The disk, from which two small pieces are broken, is very thin. There is no hinge.



FIGURE 4.—SILVER BOX-MIRROR: No. 13.2876.

The Etruscan box-mirror, which is an imitation of the Greek mirror of the same type,¹ was in vogue during the third century B.C.,² but it never acquired the popularity of the engraved mirror. Barely a hundred specimens are known.³ Like the Greek box-mirrors, it consists of a lower portion on which fits a lid with or without decorative relief,⁴ and it may or may not contain a separate polished disk. The two portions of the box may be joined by a hinge opposite which,

¹ Cf. Martha, *L'Art Étrusque*, p. 542; *Brit. Mus. Cat. of Bronzes*, Introd. p. 1. Martha, p. 543, thinks it possible that some of the relief mirrors found in Italy are of Greek origin. Square box-mirrors, as well as round, appeared in Etruria; cf. Daremberg et Saglio, s. v. 'Speculum,' p. 1427; Martha, *op. cit.* p. 199, fig. 155.

² Cf. *Brit. Mus. Cat. of Bronzes*, l. c.

³ Cf. Daremb. et Sagl., l. c.

⁴ On two Etruscan mirrors a relief adorns both faces; cf. 'Εφ. 'Αρχ. 1893, pl. XV; de Ridder, *Bronzes d'Athènes*, pp. 45 f., Nos. 161-2. The relief is sometimes wrought on the cover itself, sometimes on an attached disk, cf. *Arch. Ztg.* 1880, p. 39; Dumont et Chaplain, *Céramiques de la Grèce*, II, pp. 174, 208; *Arch. Anz.* 1891, p. 123, No. 6; Schumacher, *Beschreibung d. ant. Bronzen zu Karlsruhe*, pp. 41 f., No. 253; de Ridder, *Les Bronzes Antiques du Louvre*, p. 118; Richter, *Metrop. Museum, Greek, Etruscan, and Roman Bronzes*, p. 257.

on the cover, a ring for opening sometimes appears. When the enclosed disk is lacking, one or both of the interior surfaces are polished for reflection.¹

Our mirrors, therefore, present no peculiarities in form or manner of decoration. The use of silver, however, instead of bronze is most unusual. I find no record of any other silver box-mirrors.² The plate is so exceedingly thin in our mirrors that they could hardly have served a practical purpose, but were doubtless designed as gifts for the dead. This may account for the careless way in which the hinge on the larger mirror is attached. But this defect is perhaps due to modern restoration, for a slight disfiguration on the rim of the cover above the scene very possibly marks the place where one side of the hinge was originally attached.

The appearance of the same scene on both mirrors is not strange, for models were easy to transport and to reproduce and duplicates seem to have occurred frequently.³ The Bacchic group here presented belongs to a class for which Greek relief-mirrors offered numerous prototypes.⁴

Both Eros and Silenus frequently accompany Dionysus on this class of monuments. The inversion of the torch, an attribute which was very rarely given to Eros before the third century,⁵ has here, of course, no significance.

The reliefs on Etruscan mirrors, as on the Greek, seem for the most part to have been hammered, only the poorest being cast.⁶ The relief on our larger mirror, which is very clearly and distinctly executed, was certainly hammered, but the other is very poor and was probably cast.

2.—*Mirrors with handles:* Two mirrors with handles (Fig. 5) are also of very thin plate. The larger (No. 13.2877) is 12.3 cm. in diameter and 24 cm.

¹ Cf. Martha, *op. cit.* p. 542; de Ridder, *Bronzes d'Athènes*, pp. 41 ff.; Daremb. et Sagl., *l. c.* pp. 1425 ff.; *Brit. Mus. Cat. of Bronzes*, Introd. p. xlv; Furtwängler und Reichhold, *Gr. Vasenmalerei* II, p. 42; Richter, *op. cit.* p. 257; de Ridder, *Bronzes ant. du Louvre*, p. 115. The interior faces of Etruscan box-mirrors seem never to have been decorated with engraved scenes. Cf. de Ridder, *op. cit.* p. 118.

² Martha (*op. cit.* p. 542) refers to two silver relief-mirrors and to fragments of others, but these are apparently not box-mirrors.

³ Cf. Martha, *op. cit.* p. 543; *Röm. Mitt.* V, pp. 92 ff.

⁴ Cf. Daremb. et Sagl., *l. c.*

⁵ Cf. Furtwängler, *Eros in der Vasenmalerei*, pp. 71 f.

⁶ Cf. Daremb. et Sagl., *l. c.*: de Ridder, *Bronzes Ant. du Louvre*, p. 118.

long including the handle. The disk is round and slightly convex. The edge of both disk and handle is turned back at right angles to the surface. The handle, which is broad at the top and heart-shaped at the end, is reattached. There are two cracks in the rim. The convex surface and the handle are thickly encrusted.

The smaller mirror (No. 13.2878) is 11.6 cm. in diameter and 22 cm. long including the handle. Excepting the extension with its four sharp corners, this mirror has practically the same form as the larger one, but the rim is not bent



FIGURE 5.—SILVER MIRRORS AND STRIGILS: NOS. 13.2877-78 AND 13.2873-74.

back. It is put together from many pieces and two small portions of the rim are lost. Both surfaces are considerably encrusted.

The shape of these mirrors is the usual one for Etruscan bronze engraved mirrors of the period,¹ but the use of silver for mirrors of this form seems to have been almost as rare as it was for the box type. Except the silver relief-mirrors mentioned above,² I know of only one other specimen, the mirror cited below from the tomb of Seianti Thanunia.³ Probably these fragile objects, like the two box-mirrors, were designed for burial. In any case, Fastia's set of four silver mirrors appears to be entirely without parallel.

B. VASES

1.—A flask-shaped vase (No. 13.2864) with extremely delicate walls is 12 cm. in height and 6.2 cm. in diameter at the base. The entire surface is covered with ornamentation in very low relief with incised details (Fig. 6).⁴ The decoration falls into six bands. Around the upper band, which encircles the neck and is enclosed between two dotted lines, runs a laurel wreath on a very finely punctuated background. The leaves are arranged in pairs and extend from a point presumably designed as the back in opposite directions, meeting at the front. Between each pair of leaves a pair of heavy stems ending in a dotted circle, doubtless designed to represent a berry, springs from the main stalk. A group of four of these berries marks the point at which the two ends of the stalk meet. Below this is a band covered with four rows of delicate feather pattern. Between the ends of each pair of feathers is a dot. The vanes are marked with very fine incised strokes. Next is a narrow band around the shoulder with a guilloche pattern. The fourth band is filled with three rows of feather pattern like that above. A broad band around the middle of the body is ornamented by a waved ivy wreath on a finely punctuated background. The slightly conventionalized leaves are arranged in pairs which turn alternately upward and downward. The lowest and broadest band is encircled by a festoon enclosing three bucrania above and three large acanthus leaves below, on a background of fine feathers like those on the second and fourth bands. The elevated portions of the festoon are ornamented with dotted circles. The looped portions are filled with tiny, upturned leaves in which only the midribs are indicated. A fillet wound around the garland

¹ The heart-shaped extremities of the handles is a degenerate form of the animal head in which the handles of Etruscan and Praenestine mirrors of the latest period regularly terminated. Cf. G. Matthies, *op. cit.* p. 6.

² Page 260, note 2.

³ In the Roman period silver mirrors seem to have been more common, and even gold ones were in use. Cf. *e.g.* Friederich, *Berlins Antike Bildwerke*, pp. 85 f.; Daremb. et Sagl., *l. c.* p. 1429; Richter, *op. cit.* p. 288. A silver mirror disk was found in Baniyas, Syria; de Ridder, *Coll. de Clercq*, III, p. 324, No. 535.

⁴ I am indebted to the kindness of Mr. Caskey for this excellent restoration.



FIGURE 6.—SILVER VASE: No. 13.2864.

separates the portions with different decoration and also defines the point, at the bottom of each loop, from which the leaves turn in opposite directions. A narrow fillet is attached to each horn of the bucrania. The spreading acanthus leaves are composed of several members springing from a central rib which is ornamented by a row of dots. On the entire vase the feather decoration is slightly graduated, each row being a trifle smaller than the row below. The first, third, and fifth bands and the festoon are gilded. The extremely delicate texture of the walls of this vase is equalled by the exquisite fineness of the execution. It is in a fragmentary state and has been only partially restored. About two fifths is lost.

2.—A vase designed for suspension (No. 13.2867), the walls of which are also very thin, is 12.3' cm. high, not including the chain (Fig. 7, A).¹ A band with a zigzag pattern encircles the neck. The shoulder, which bends outward abruptly from the neck, is covered with four rows of small feathers like those on No. 1.

¹ The chain in the reproduction does not belong to this vase.

The body tapers from the sharp angle which it forms with the shoulder to a blunted point. It is divided into two fields by a narrow band enclosed between two punctuated lines and decorated with a wave pattern on a background punched, not with a pointed, but an edged instrument. A narrow band around the top of the body is marked with a zigzag pattern and defined at its lower edge by a punctuated line. From this band are looped three "necklace" patterns suspended by fillets with two long ends. At the bottom of each pendant is a group of three dots. In each of the fields above the necklace patterns is an ornament suggesting a much conventionalized bucranium with a fillet suspended from each horn. In the lowest field three slender, veined



A B C
FIGURE 7.—SILVER VASES: A, No. 13.2867; B, No. 13.2866;
C, No. 13.2868.

leaves with edges defined by punctuated lines spring from the tip of the vase to the horizontal band. Alternating with these leaves at their upper extremities are three leaves without veins. Their outline and midribs are indicated by a series of short, horizontal strokes between two parallel lines. Between each pair of leaves is a flower indicated by three dots on the end of a punctuated stem. A slight projection on one side of the vase just below the shoulder marks the point at which one of the chains for suspension was attached. The surface is badly encrusted, especially the neck and shoulder, and part of the mouth is broken away. No certain traces of gilt remain. Although this vase is less delicate in execution and less rich in ornamentation than No. 1, yet it is an excellent specimen of silversmith's work.

3.—A third vase (No. 13.2869) also of very thin plate and designed to be suspended, is circular with a conical cover (Fig. 8, A). It is 7.3 cm. in diameter at the bottom and 7 cm. high including the cover. Around the top and bottom of the box are mouldings, and on each side an ear for the attachment of



FIGURE 8.—SILVER AND GLASS VASES: A, No. 13.2869; B, No. 13.2865; C, No. 13.2900.

a chain is soldered on. A festoon in four loops is employed as decoration. The right half of each loop is filled with upward pointed leaves on which both midrib and veins are roughly indicated, the left half with circles with indented centres. A fillet wound around the garland at the four points of elevation and at the bottom of each loop separates the two varieties of decoration. Diverging from the top of the lid, four large acanthus leaves extend to the horizontal rim. Their midribs are indicated by punctuated lines between two grooves, and veins are suggested by ridges. Alternating with these leaves are four smooth-edged leaves. The midribs, which are like those just described, are enclosed between a pair of raised ribs. Between each pair of leaves is a group of three dots, and placed more or less at random over the surface of the smooth-edged leaves are dots in pairs. The garland and the midribs of the acanthus leaves are covered with gilt, which almost everywhere overlaps the pattern. The execution is much less delicate and careful than that of the preceding vases. No chain is now attached. A tiny piece is broken out of the cover and in some places the surface is slightly corroded. Otherwise the box is splendidly preserved.

4.—Another vase designed for suspension (No. 13.2868) of the same general form as No. 2, but somewhat heavier and with flaring mouth and foot and more sloping, rounded shoulder, is 11 cm. in height (Fig. 7, c). Around the neck run two parallel grooves. Two bands with wave pattern encircle the vase, one on the shoulder, the other on the top of the body. Below the lower band and suspended so as to meet it at four points is a festoon, of which the first and third loops are filled with dotted circles, the second and fourth, with crudely rendered leaves. The festoon is suspended by fillets with two long ends. In each field above the festoon is an ornament consisting of four leaves. All

parts of the decorative pattern are gilded. Two perforations in the lip admit rings to which chains are attached.¹ The mouth of the vase and the rings are covered with greenish blue encrustation. A patch of encrustation disfigures one side of the shoulder. Otherwise the vase is in excellent condition. This vase, distinctly inferior in execution to No. 1 and No. 2, is also coarser than No. 3.

5.—Another circular box with conical cover (No. 13.2866), resembling No. 3 in form, is 7 cm. in height including the cover and 5.8 cm. in diameter at the bottom (Fig. 7, B). The cover had a ring, presumably for the attachment of a chain. Ears soldered to each side serve to attach twisted chains in two sections.



FIGURE 9.—SILVER VASE: NO. 13.2862.

high with a base 5.7 cm. in diameter (Fig. 9). A flat cover closes the mouth. A broad crack across the top of the vase splits it almost half way to the base. Other cracks are patched. The neck was broken off but is reattached on one side. Much of the surface is thickly encrusted.

¹ The handle and chains shown in Fig. 7c do not belong to this vase. They are wired on and a fragment of the original chain, which was twisted, is still attached to one of the rings. The handle is covered with green encrustation.

At the top the chains are joined by a slender handle. A waved band of carelessly applied gilt leaf encircles the box in three loops and similar gilt bands cross the lid twice in one direction and once in the other. Considerable patches of light green encrustation fleck the surface. About half of the gilt leaf has disappeared and the ring on the cover is broken. Otherwise the box is excellently preserved.

6.—A circular box with conical lid (No. 13.2865) is 5.4 cm. in diameter at the bottom and 7.5 cm. high including the lid (Fig. 8, B). A ring on the cover probably served to attach a chain. The lower edge is encircled by a moulding. The surface of the box is rather rough, the entire lid thickly encrusted, and a number of cracks are patched.

7.—A jug-shaped vase (No. 13.2862) is 13.5 cm.

8.—A cauldron-shaped receptacle (No. 13.2863) is 10.2 cm. high, 13 cm. in diameter, and 11 cm. across the top, including the narrow horizontal rim (Fig. 10, B). A thin, flat strip of silver constitutes a swinging handle, the hook-shaped ends of which are inserted into rings formed from wires passed through a pair of perforations in the rim and bent back on the under side. One of these rings is broken and portions of the handle are missing. The remainder of the handle is attached to the rim through corrosion. Numerous cracks are patched and much of the outer surface is badly encrusted.

9.—A second cauldron (No. 13.2861) is 10.3 cm. high, 12.3 cm. in diameter, and 10 cm. across the top including the horizontal rim (Fig. 10, A). In contrast



FIGURE 10.—SILVER CAULDRONS: A, No. 13.2861; B, No. 13.2863.

to the oval contour of the preceding cauldron, this presents a more pronounced shoulder from which the body tapers gradually to the bottom. The handle is similar in form to that of No. 8, but it is broader and heavier and the ends are bent up so as to form long hooks passing through heavy ears which were attached to the under surface of the rim. The handle is repaired in several places and is now in two parts. The ears have come off and two portions of the rim are broken away. Many cracks are patched and a large part of the surface both inside and out is covered with thick encrustation.

10.—The presence of several loose rings and fragments of chain, and of six more handles,¹ either entire or fragmentary and, in some cases, with portions of

¹ The two heaviest handles, the only ones intact, are silver; the others may be bronze.

twisted chains attached, apparently indicates that at least five vases for suspension have disappeared; one of the handles may belong to No. 3.

None of the articles from the tomb are of more importance or of greater interest than the silver vases. They are doubtless all toilet receptacles, including Nos. 7, 8, and 9 which, although somewhat larger than the rest, probably served to hold liquids of some sort used at the bath. But several of them are so extremely fragile that it is most unlikely that they were made for daily use. So presumably these objects, like the silver mirrors, belonged to a funerary equipment.

From the standpoint of technique the vases fall into two groups, the ornamented (Nos. 1-5) and the plain (Nos. 6-9). In general the ornamented group is of distinctly finer quality and more careful execution than the plain, but among the decorated vases there is also a wide divergence in the quality of workmanship.

Far surpassing all of the others in richness and originality of design, in elaboration of detail, and in fineness and delicacy of finish, No. 1 occupies a unique position in the group. In form also it is without analogy among the other vases. Very close parallels, however, are found in five bronze vases, all from Italian soil. These are published as follows:

(a) *Mon. Ant.* IX, col. 694, fig. 23¹; (b) *Ibid.* pl. VIII, 8; (c) *Mus. Greg.* I, pl. LIX, 3 (left)²; (d) *Ibid.* 3 (right); (e) Schumacher, *Ant. Bronzen zu Karlsruhe*, pp. 33 f., No. 221, pl. IV, 17.

The decoration on all of these vases is arranged, as on our vase, in horizontal bands. The feather pattern, which on our vase predominates, also appears on all, but only on the neck. An ivy wreath on a punctuated background, almost identical with the one on our vase, encircles three of the bronze vases (a, b, d). On all of them the surface is almost or entirely covered with decoration, and on three at least (a, b, e) portions of the decorative surface were coated with silver, just as on our vase gilding was employed. But the tongue, the wave, and the leaf-and-dart patterns, which predominate on the bronze vases, do not appear on the silver vase, nor is the conventional ornamentation of the bronze vases relieved by any touch of Hellenistic freedom, such as is produced by the festoons, bucrania, and acanthus leaves on the lowest band of the silver vase, and by the abundant employment of the feather pattern.

¹ This is the only one of these five vases that has feet or a chain.

² The references are to the first edition of the *Museo Etrusco Gregoriano*.

Brizio argues convincingly that the necropolis from which *a* and *b* came belonged to the Senonian Gauls.¹ The vases, therefore cannot be later than 283 B.C., the year in which the Gauls were expelled by the Romans. Watzinger includes *c* and *d* in a group of vases, some of which were found in a tomb containing a coin of Parisades.² The coin, at any rate, cannot be earlier than 285 B.C. Watzinger places the vases in the middle of the third century. Schumacher designates *e* as "Etruskisch des V-IV Jahrh." The striking resemblance among these five vases in form, technique, and ornamentation leaves no doubt that they all belong to the same period. Therefore, if Brizio is correct, *c* and *d* cannot be included in Watzinger's group above mentioned, the remaining examples of which apparently belong, as he states, to the middle of the third century, but are probably as early as the beginning of that century and to be included among the first examples of metal vases upon which low relief was combined with engraving, a process representing a phase in the gradual development from decoration in engraving alone to the employment of high relief.³

In respect to form, to the general scheme of band decoration, and to the encircling ivy wreath, our vase is an imitation and a continuation of the type represented by the bronze vases. But its technique and certain features in the decorative system, particularly the acanthus leaves springing from the bottom, link it to Watzinger's group referred to above.⁴ The purely Hellenistic elements appearing on the lowest band and the lavish use of the feather pattern⁵ also place our vase distinctly later than the bronze vases.

¹ *Mon. Ant.* IX, cols. 711 ff.

² *Ath. Mitt.* XXVI, pp. 98 f.

³ Watzinger, *op. cit.*

⁴ It is in this class of metal vases that we find the origin of the leaf motive which, springing out from the base, was at first confined to the lower part of the vase, but in its further development, as is most conspicuously illustrated by the "Megarian" bowls, spread over practically the entire surface. Cf. Watzinger, *op. cit.* p. 97; *Arch. Anz.* 1897, pp. 128 ff.

⁵ The same type of feather pattern appears on a gold rhyton of the fourth century from Turgan (*Compte-Rendu* 1877, pl. I, No. 7) and on a silver-gilt plate from Rhodes (*Brit. Mus. Cat. Jewellery*, p. 234, fig. 66). The capital of a bronze candelabrum in Cairo (*Cat. Mus. Caire, Greek Bronzes*, pl. XIV, No. 27.800 *a* and *b*) and a silver vase in Petrograd (*Ant. d. Bos. Cim.*, pl. XL) offer interesting examples of the employment of this pattern in later times.

The adoption of the bucranium as a decorative motive for vases must be a reflection of its use in architecture, where it would logically develop, both sculptured and painted, from the custom of displaying the heads of sacrificed victims on altars and temples.

It was not a feature of classic Greek architecture, if the evidence of preserved buildings is regarded as conclusive. A round temple in Samothrace built in the beginning of the third century B.C. seems to be the earliest known structure on which the sculptured bucranium appears.¹

But a gem published by Furtwängler (*Antike Gemmen*, pl. XXXI, No. 1) among Greek stones of the fifth to fourth centuries is engraved with a bucranium, and one also decorates the extension of a Praenestine mirror which has been assigned to the first half of the fourth century.² Probably earlier than either of these, and extremely interesting as a direct imitation in miniature of monumental sculpture, is a little Greek vase in the Boston Museum of Fine Arts, with a slender, finely proportioned black bucranium in relief on a red background (Fig. 11).³



FIGURE 11.—BUCRANIUM
ON VASE.

The horns are long and gracefully curved, and the hair is indicated by delicately incised curved strokes. No fillets mar its classic outline.

Such objects may be regarded as evidence of the existence of this sort of architectural decoration before the time of Alexander, for in all of these instances the use of the bucranium was surely suggested by monumental art. But it does not appear in common use until the third century B.C.

The first indication of the adoption of the woven garland in the place of the simple branch appears in scenes on red-figured

¹ Cf. Altmann, *Architektur und Ornamentik der antiken Sarkophage*, p. 62; Conze, Hauser, Benndorf, *Untersuchungen auf Samothrake*, pl. LXI, etc.

² Cf. Matthies, *op. cit.* pp. 77 f.; 117. On the extension of a later mirror from Teano the same decoration appears. Cf. *Mon. Ant.* XX, cols. 135-6, fig. 103.

³ No. 95.55, *Collection Van Branteghem*, No. 261. This long, slender bucranium is in marked contrast to the broad, stumpy form which is usual in the later Greek type that presents the entire head. Cf. Altmann, *op. cit.* pp. 62 f.

vases of the second half of the fourth century.¹ The first illustration that I know of the employment in architecture, of the heavy, compact, genuinely Hellenistic festoon,² such as our vase presents in a somewhat conventionalized form is on a painted altar of the first half of the third century now in the museum of Alexandria. Here the garland is suspended by fillets.³

The earliest monument in architecture thus far recorded upon which festoons appear suspended by bucrania is the temple of Artemis in Magnesia erected between 220 and 205 B.C.⁴ Leroux regards the style of decoration found on the Large North Portico at Delos, built at the end of the third century, as the specific forerunner of this combination of bucranium and festoon. The decoration of the portico consists of bucrania alone on the triglyphs of the façade and appears, Leroux argues, not complete in itself but designed as a background for actual garlands which were suspended on the bucrania.

Very likely on this structure and on others of the same period, on which bucrania alone appeared, festoons were suspended from them. The employment of this form of decoration in sculpture on contemporary monuments practically proves it. But I regard it as much more probable that originally bucrania sculptured on monuments without an adequate architectural setting were designed not as mere supports for festoons but as motives with an individual significance which enclosing festoons should serve to emphasize and enhance. As the victim offered to the god was the significant feature, and not the wreaths with which it was decked, so the victim's head attached to the altar or temple of the god, and not the garland, was the object of importance. Therefore the festoons which were employed to furnish a setting for the bucrania were doubtless originally attached between them by means of fillets or rosettes or perhaps invisibly. On the temple in Samothrace cited above as an early example of the employment of the bucranium in architecture, a plain waved band passing below the bucrania and above a rosette placed between

¹ Cf. Daremb. et Sagl., s. v. 'Serta,' p. 1258 and fig. 6379.

² Cf. Daremb. et Sagl., p. 1259.

³ Cf. G. Leroux, *Lagynos*, p. 123.

⁴ Cf. Leroux, *op. cit.* p. 125; Humann, Kohte, Watzinger, *Magnesia am Meander*, p. 81, figs. 76, 77.

each pair was presumably suggested by this use of the festoon, or may have been designed to be covered by a garland.¹

It is therefore this style of architectural decoration that doubtless inspired the combination of the bucranium² and the Hellenistic festoon in the form used on our vase, a combination which apparently never acquired popularity, for Hellenistic pottery bears no evidence of its general use.³ In fact I know of no contemporary parallel for this part of the decorative scheme on No. 1. Nos. 3 and 4 and particularly the circular box from the tomb of Thanunia show very close relationship to it, but I regard these rather as evidence of the influence on a declining industry of the superior type which No. 1 represents than as inferior products of the same date. No. 1 seems, therefore, to be as rare in style of decoration as it is in quality of execution.

The other vases from the tomb are of great interest as illustrations of the gradual decadence of art in the third century. Not only do they preserve many characteristics of the products of the early third century, but their manifest relationship to late third and early second-century material clearly indicates their relative position between the two.

The fact that most of these vases were designed to be suspended, and the presence in the tomb of numerous handles and pieces of chain indicate the popularity of this style of receptacle. Vases for suspension were no novelty. From the earliest Egyptian period vases were suspended in some form or other. In the Villanova period a small, tureen-shaped vase provided with chains was a very common type.⁴ On some of these at least the

¹ It is rather interesting to observe that the acanthus leaves on capitals in this temple are of exactly the same form as those on our vase (Conze, etc. *op. cit.* pl. LX); also that a cone-shaped architectural ornament which adorned some part of the temple is covered with a scale pattern strongly suggesting the feather pattern on the vase (*op. cit.* pl. LIX).

² Our bucranium, like the relief on the vase in Boston, is much more slender than is usual in the type that presents the head in its natural form. Cf. p. 270, note 3.

³ The festoon alone in Hellenistic form appears on a certain class of late vases with dark decoration on white background (cf. Daremb. et Sagl., *op. cit.* p. 1259; Leroux, *op. cit.* p. 114). In the Roman period lions' heads, masks, etc., very commonly occupied the space above festoons, which had then become a favorite decorative motive in every class of art (cf. Altmann, *op. cit.* p. 60; Daremb. et Sagl., *l. c.*).

⁴ Cf. *Mon. Ant.*, V, col. 302, pls. IX, 21, XIII, 19; *Not. Scav.* 1882, pl. XII, 7; 1889, pl. I, 12.

chains that supported the vase, as well as a third chain attached to the cover, were joined at the top by a fibula.¹ Possibly the handles on our vases, the common third-century type, represent a development of this use of the fibula. But the form might have been readily suggested by the handles on situlae, box-

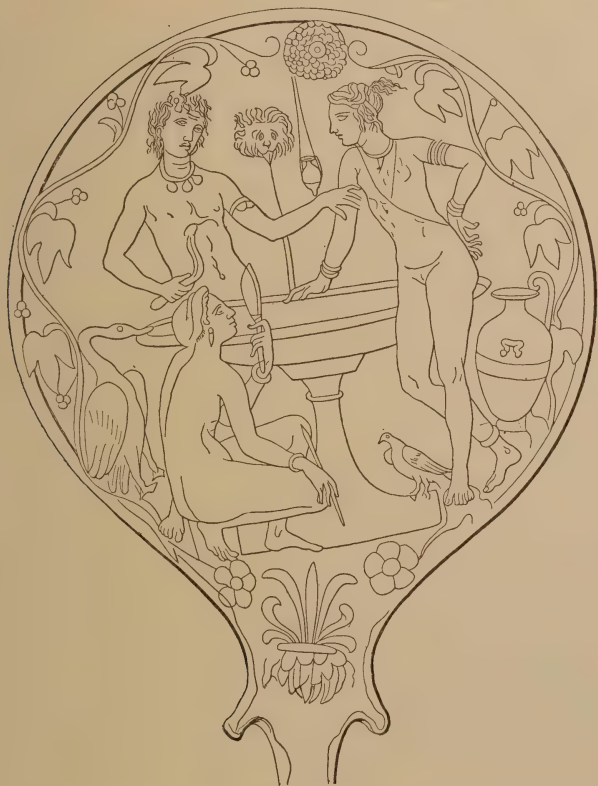


FIGURE 12.—PRAENESTINE MIRROR: GERHARD, IV, 317.

mirrors, etc. Very possibly No. 5, and perhaps some of the others, had a third chain attached to the cover.² A bronze toilet receptacle in Karlsruhe offers a good illustration of this type.³ Vases in the form of a human head suspended by chains

¹ Cf. *Not. Scav.* 1882, pl. XII, 7.

² Probably Nos. 1 and 2 and perhaps also No. 4 were originally provided with covers. A fragment of a silver cap like the lid on No. 7 may have belonged to No. 1.

³ Cf. Schumacher, *op. cit.* p. 34, No. 222, pl. IV, 19.

were much used in Etruria.¹ A vase found in Pompeii hanging from a ring together with four strigils and a patera, all of bronze, furnishes ample proof of the purpose of such receptacles.² In this respect a fourth-century Praenestine mirror, published in Gerhard, *op. cit.* IV, pl. 317 (Fig. 12), and Matthies, *op. cit.* pp. 90 ff., is also extremely interesting.

The vase depicted there suggests in form our Nos. 2 and 4. A somewhat closer parallel to it is presented by a silver vase (A)³ in the Metropolitan Museum of Art, New York.⁴ This vase together with the silver box (B) found with it,⁵ as well as the silver box from Taman (C) and the silver vase from Kertsch (D), published in *Antiquités du Bosphore Cimmérien*, pls. XXXVII, 3⁶ and XXXI, 3a respectively, should be added to the group of vases placed by Watzinger⁷ at the beginning of the third century. Furthermore, I consider it very probable that the decoration of all of the objects in this group, except perhaps the bowl, is hammered in, as noted by Furtwängler in the case of the two silver vases in the Metropolitan Museum, and not simply engraved as stated by Watzinger.⁸ This, however, is not incompatible with the date assigned by him, *i.e.* the early third century. It has already been shown that the prototypes of our vase No. 1, which are decorated in the same technique, belong to this period.

In the type of vases represented especially by the four mentioned above as belonging in Watzinger's earlier group, and by *Compte-Rendu* 1880, pl. IV, 9 from Taman (E) and *Arch. Anz.* 1899, p. 129, from Boeotia (F) are to be found the prototypes of all of our vases with chains (No. 1 was probably never suspended) and of No. 6. In form No. 2 is very close to A and D, No. 4

¹ Cf. *e.g.* Richter, *op. cit.* p. 194, No. 510 and references. The Boston Museum possesses a number of specimens.

² Cf. Niccolini, *Casa di Pompeii*, II, 2, pl. LXII.

³ I employ these designations to facilitate future reference.

⁴ Cf. Richter, *op. cit.* pp. 181 f.; Furtwängler in *Sitzb. Mün. Akad.* 1905, pp. 272 f., pl. IX.

⁵ Cf. Richter, *l. c.*; Furtwängler, *l. c.*

⁶ This box is not identical with *Compte-Rendu*, 1880, pl. II, 23, as Watzinger's publication seems to imply (p. 98, No. 2), and does not belong in the same group.

⁷ *Op. cit.* pp. 92 f.

⁸ I assume from the reproductions that this is the same technique as that of our vases, *i.e.* a low relief produced by impressing the outlines from the outside.

presents a splendid parallel to E and F, while Nos. 3, 5, and 6 are manifestly degenerate descendants of B and C. No. 2 reflects all four of the vases which have the form of an amphora in the circlet of upward turned leaves around the bottom. The analogy with A and D is particularly close owing to the likeness in form. The necklace pattern on No. 2 also indicates the closest relationship with A and D,¹ and even more striking is the appearance on both D and No. 2 of the feather pattern. But this pattern in like manner links No. 2 very closely to No. 1, and the bucranium-like pattern above each necklace, as well as the general character of the workmanship, also emphasizes its Hellenistic nature.

The festoons on Nos. 3 and 4, filled with leaves and dotted circles, establish a close connection between these vases and No. 1. The leaf ornament on the lid of No. 3 is simply an adaptation by reversing the direction of the decorative scheme on the bottom of several of the vases considered above. The lid of B suggests at once the prototype. But B still preserves the conventional fineness of the classic style, while No. 3 has become free and careless, in a word, Hellenistic.

The only point of special interest attaching to No. 5 is the fact that the clear, whitish color of the silver and the color, texture, and mode of application of the gilding find exact counterparts in the smaller box-mirror (Fig. 4). The two objects were certainly made in the same place at the same time.

Nos. 6 and 7 merit no further comment except possibly the mention of a jug-shaped bronze bottle of the fourth (?) century and similar bronze bottles of the Roman period in the Metropolitan Museum as fairly good parallels for No. 7 in form.²

The small cauldrons, Nos. 8 and 9, are of a type which not infrequently appears in women's tombs of the third and second centuries.³ They are of the same form as the larger utensils used in the kitchen, but since they are so small and sometimes of silver, and since they appear to be found only among toilet ob-

¹ The necklace ornament, a characteristic of several of the vases in Watzinger's group to which A. and D belong (*op. cit.* pp. 92 ff.), indicates the advent of the Hellenistic tendency to reproduce in sculpture and painting objects as they appeared in reality; cf. Leroux, *op. cit.* p. 122.

² Cf. Richter, *op. cit.* p. 193, No. 506; pp. 195 f., Nos. 514, 515.

³ Cf. Helbig, *Röm. Mitt.* I, p. 219. By far the finest specimen is the bronze situla from Bolsena presenting *The Return of Hephaestus* in relief; cf. Heydemann, *Hallisches Winckelmannsprogramm*, 1879, pp. 99 f., pl. IV, Nos. 3-3b.

jects I think, as I have stated above, that they belong to the equipment for the toilet or the bath.¹ Almost exact parallels, especially for No. 9, are found in a small bronze cauldron from Perugia² and a silver one from the tomb of Seianti Thanunia (Fig. 13) near Chiusi.³ The handle of the latter resembles that of No. 8 in lacking the long, hooked ends.⁴

In the main, the threads of connection thus far traced in our silver vases lead backward, sometimes many decades backward.



FIGURE 13.—SILVER OBJECTS FROM THE TOMB OF SEIANTI THANUNIA:
BRITISH MUSEUM.

They demonstrate clearly the heritage of these objects from the past. But they are often only single, isolated, and usually broken

¹ Cf. e.g. Helbig, *Bull. Inst.* 1877, p. 202.

² Cf. *Not. Scav.* 1900, p. 559, fig. 7.

³ I am indebted to the great kindness of Mr. Arthur H. Smith, Keeper of Greek and Roman Antiquities in the British Museum, for a photograph of the silver objects from this tomb. Cf. also *Not. Scav.* 1886, pp. 353 ff.; *Röm. Mitt.* I, pp. 217 ff.; *Ant. Denk.* I, pp. 9 f.

⁴ On a late Etruscan mirror from Bomarzo one of these small cauldrons appears. Gerhard, *op. cit.* V (Körte), No. 89.

threads. Regarded as a whole, the vases are far more closely related to a later group.

A comparison with the silver objects from the tomb of Seianti Thanunia (Fig. 13) affords the most convincing evidence. The small cauldron, as already stated, is almost a duplicate of our No. 9. The circular box with rings for suspension on both body and lid is very similar both in form and in style of decoration to our No. 3. Bucrania are employed as on our No. 1, but they are placed both above and below the festoon and are of an extremely degenerate type. The spherical vase suspended on short chains with a handle¹ and decorated with a band of punctuated wave pattern, although it has no analogy in form among the preserved vases of our group, is of the same general style. The presence of a silver strigil recalls at once our three silver strigils. Finally, the silver mirror, although unlike our specimens, establishes a certain relationship, since silver mirrors are so rare.

But the articles in the Thanunia tomb are, on the whole, careless and coarse in execution in comparison with our vases.² They appear to represent a later period in which long used types had become worn out and degenerate. Fortunately we have evidence bearing on the date of these objects. Together with a sarcophagus of exactly the same type and style as Seianti Thanunia's, namely that of Larthia Seianti, also found near Chiusi, was a Roman uncial *as* which dates the tomb between 217 and 146 B.C. Milani places the Thanunia tomb in the second half of the second century.³ I see no reason for dating it any later than the Larthia tomb, in which the coin was found, and believe that both belong to the first half of the second century, possibly half a century later than our tomb, but probably less than that.⁴

Our vases may, I think, with one exception, be placed in the second half of the third century, probably toward the end. No. 1, however, which is so finely executed, so similar in form to earlier types, and so original in style of decoration, is probably at least

¹ The drawing in *Ant. Denk.* shows this vase with chains and handle.

² Cf. *Not. Scav.* 1886, p. 355.

³ *Not. Scav. l. c.*

⁴ To the same class and the same period belong doubtless the gold and silver articles from a tomb in Civitella d'Arna described in *Not. Scav.* 1887, p. 86. Gamurrini dates the tomb in the third century, but the presence on a silver vase of festoons suspended from bucrania renders such an early date highly improbable (cf. above, p. 270). A few silver toilet objects from Larthia's tomb are all of different nature from anything in Fastia's. Cf. *Bull. Inst.* 1877, pp. 201 f.

as early as the middle of the third century. I also consider it quite possible that it was an importation from the same centre of metal industry¹ which produced its bronze prototypes, and that our other vases are of local manufacture. At all events, wherever they were produced, our group of vases is of great significance in representing one phase in a long line of silver manufacture, the exact nature of which we are as yet able to judge only by a comparatively small number of isolated specimens.²

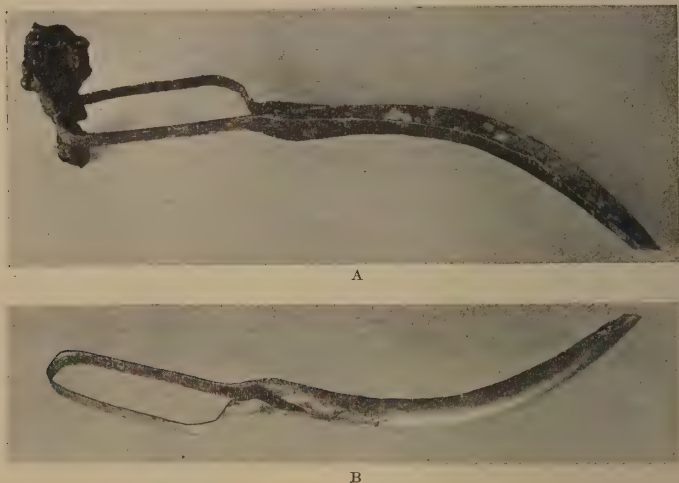


FIGURE 14.—SILVER STRIGIL: No. 13.2872.

C. STRIGILS

1.—A strigil of the usual Etruscan form (No. 13.2872) is 21.7 cm. long and intact (Fig. 14).³ The inside of the handle above the very deeply hollowed surface of the blade is gilded. It is perfectly preserved.

2.—Two other strigils (Nos. 13.2873 and 13.2874), similar in form to the first but without gilding, are broken and a few pieces are lost (Fig. 5).

The color and texture of both the silver and the gilt of the unbroken strigil indicate that it was produced together with the smaller box-mirror and vase No. 5 (see p. 275).

¹ We have no means thus far of determining where the silverware of the third century was produced. Watzinger, on the basis of provenience, suggests the coast of Asia Minor (*op. cit.* p. 102; cf. also Martha, *L'Art Étrusque*, p. 517). The early appearance in Asia Minor and on the islands of the Aegean of the Hellenistic motives employed on our vase No. 1 adds force to his suggestion.

² Cf. Watzinger, *op. cit.* pp. 100 ff.

³ Fig. 14, A shows it as it was found, attached to a badly oxidized iron nail upon which it had been suspended; Fig. 14, B as it now appears.

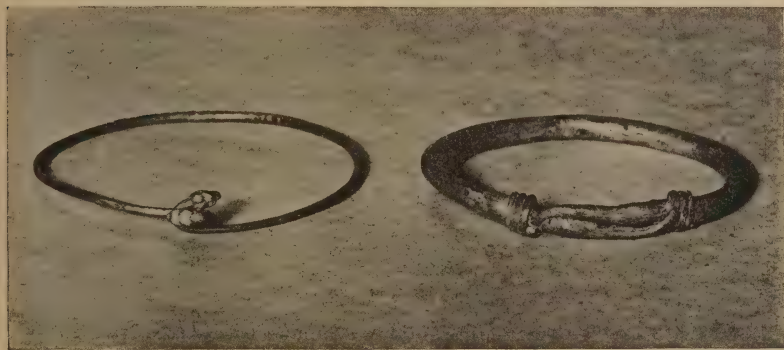
Strigils were, of course, in almost daily use by men among both Greeks and Romans,¹ and in Etruria at least they were used by women as well, for they are found in the graves of Etruscan women, and on Etruscan bronze mirrors women are depicted in the act of using them.² They are usually of bronze, although other metals were sometimes employed. Silver, however, is very rare. Besides the three silver strigils given to Fastia Velsi, I know of only four specimens, all found in women's tombs, but only one in each.³

D. BRACELETS.

1.—One bracelet (No. 13.2870), is formed from a solid silver wire with the hooked extremities slightly thinner than the middle and terminating in serpents' heads. Its longest diameter is 8 cm. (Fig. 15, A).

2.—Another bracelet (No. 13.2871), also 8 cm. in diameter, is formed from a hollow tube 6 mm. thick (Fig. 15 B). The ends, which taper into solid wires, overlap and are wound three times around the body of the bracelet.

Bracelets of all sorts ending in snakes' heads were much used in Hellenistic and Roman times. The heads were sometimes



A

B

FIGURE 15.—SILVER BRACELETS: A, No. 13.2870; B, No. 13.2871.

¹ For a discussion of these objects, cf. Richter, *op. cit.* pp. 293 f. See *Not. Scav.* 1898, p. 398, fig. 4, for a copper strigil.

² For example, Gerhard, *op. cit.* IV, 317, fig. 12, 318; V, 154. Aphrodite using a strigil forms the handle of a strigil from Palestrina and of a patera from Vulci, in the British Museum, *Cat. of Bronzes*, Nos. 665 and 755. In a bath scene on a late red-figured amphora in the Boston Museum (No. 95.21; *Röm. Mitt.* VIII, 1893, p. 338, No. 18) two women have strigils in their hands.

³ It is interesting to note that all of these graves also produced other objects which find parallels in our tomb. Cf. Furtwängler, *op. cit.* p. 274, fig. 8; *Ant. d. Bos. Cim.* pl. XXXI, Nos. 2, 3; *Ant. Denk.* I, p. 9, fig. 3.

hooked together, as on our specimen¹; oftener they formed the extremities of ornate spiral bracelets, such as Fastia wears on her wrist.²

The bracelet with overlapping ends coiled about its body is of interest as an example of a type which originated in remotest times and endured throughout antiquity. The opinion has been expressed that finger rings composed of a piece of wire inserted through an ornament and joined at the ends in the manner of our bracelet, so as to be adjustable to a finger of any size, were the first articles of jewelry employed by man.³ However that may be,⁴ the form appeared very early and was soon adopted for bracelets and earrings, but I have found no other specimen of any date that is so neatly moulded as our bracelet.⁵

¹ Cf. e.g. *Mon. Ant.* XX, cols. 81f., fig. 49.

² Cf. *Brit. Mus. Cat. Jewl.* p. 324, No. 2774 and remarks. It is interesting to observe that both of the bracelets that Fastia wears find exact parallels in the bracelets worn by Seianti Thanunia and Larthia Seianti on their sarcophagi.

³ Cf. Émile Vernier, *La Bijouterie et la Joaillerie Égyptiennes, Mémoires publ. par les membres de l'Institut Français d'Archéologie orient. du Caire*, Vol. II, p. 81.

⁴ Cf. e.g. L. Pollak, *Klassisch-Antike Goldschmiedearbeiten*, Introd. p. v.

⁵ Following are some examples of this type of circlet from different periods: XII dynasty, gold rings from Dahshur, publ. *Cat. général Mus. du Caire*, Vol. XLVIII (*Bijoux et orfèvreries*, by Émile Vernier), pls. XX, and XXII; Mycenaean period, gold earrings from Cyprus, publ. *Brit. Mus. Cat. Jewl.* pl. III, Nos. 373-379; eleventh to ninth centuries, bronze bracelet from Cumae, publ. *Mon. Ant.* XXII, col. 73, fig. 18; ca. ninth century, gold ring from Assarlik, Caria, publ. *J.H.S.* VIII, p. 71, fig. 13; seventh to sixth centuries, gold earring (?) from Tharros, publ. *Brit. Mus. Cat. Jewl.* pl. 23, No. 1514; fourth century, many earrings from Carthage, cf. *C. R. Acad. Insc.* 1900, pp. 192f; ca. 300 B.C., gold earrings from Beirut, publ. L. Pollak, *op. cit.* pl. XI, Nos. 221, 222, 224; Hellenistic, gold bracelet from Samsun, Amasia, publ. *ibid.* pl. XVII, No. 404; Graeco-Roman, gold earring, publ. *Cat. gén. du Mus. du Caire*, Vol. XLVIII, pl. XXXIV, No. 52.552; gold bracelet (same type but much elaborated), publ. *ibid.* Vol. XXXVIII, pl. XVI, No. 52.125; Augustan Age, gold bracelet from Bori, Russia, publ. *Arch. Anz.* 1909, p. 146, fig. 7; first to second centuries after Christ, bronze bracelets from Dalmatia, publ. *Jh. Oest. Arch. I.* XII, Beiblatt, p. 103, figs. 73, 74; second to third centuries after Christ, gold ring, publ. *Brit. Mus. Cat. Jewl.* pl. LXIII, No. 2828. A "pseudo safety-pin" of bronze from the Argive Heraeum (II, pl. LXXXVIII, No. 947), and the links used for attaching the handles to a cauldron found in the Dobrudja (*Jh. Oest. Arch. I.* XV, p. 123, fig. 100) and to a Faliscan bronze vase in the Boston Museum of Fine Arts, (No. 98.684) show how popular circlets in this form were for many different purposes.



FIGURE 16.—GOLD ORNAMENTS: NOS. 13.2879-2885.

III. GOLD

A. EARRINGS

1.—A pair of earrings (No. 13.2880-81) is composed of hollow tubes with the usual beadlike enlargement at one end (Fig. 16). They are 1.8 cm. in diameter. The "bead" is enclosed at each end by a tiny ribbed band of gold imitating fine spiral wires and encircled by a beaded moulding. Both the "bead" and the adjoining portion of the ring are ornamented with scale pattern in filigree. Inserted in a link back of the "bead" is a tiny beaded hoop. Except that one of the rings has lost this hoop and is slightly bent, both earrings are perfectly preserved.

2.—A second pair of earrings (No. 13.2883-84) is of the pendant type, the disk of which, 8.5 mm. in diameter, has a sunken convex centre surrounded by a very finely beaded moulding (Fig. 16). The end of the S-shaped hook at the back, after forming at the bottom of the disk a loop on which a link, probably the attachment for a pendant, is suspended, is twisted twice around the hook at the top of the disk.

The ring-shaped pair of earrings belongs to a type which developed from a Greek form¹ and is common in the graves of Etruscan women of the fourth and third centuries. Most of the Greek earrings of the ring type, as well as some of the earliest Etruscan, terminated at one end in a head of some sort.² This soon assumed in the hands of Etruscan jewelers the form of a bead. A chronological arrangement of the different varieties in which this type appears is not now possible.³

Filigree, a form of decoration which attained its height in Greek jewelry of the fifth to third centuries, seems to have been employed rather sparingly by later Etruscan jewelers.⁴

I believe with Hadaczek⁵ that the fact that Etruscan gold earrings of this style regularly fail to have the unornamented end suitably finished for insertion into the ear probably indicates that they were made only for burial.⁶

Earrings with a hook fastened to the back of a disk from which hung pendants in various forms were much worn in Greece from the sixth century until well into the Christian era.⁷ Etruscan bronze and plastic products furnish conclusive evidence that they were also widely used in Etruria, yet very few specimens are preserved.⁸ The loss of the pendants leaves no definite clue to the date of our earrings.

¹ Cf. Hadaczek, *Der Ohrschmuck der Griechen und Etrusker*, p. 64.

² Cf. e.g. *Brit. Mus. Cat. Jewl.* pls. XXXI, XLIII, Nos. 2206-2210.

³ Cf. Hadaczek, *op. cit.* p. 66; *Brit. Mus. Cat. Jewl.* p. 251, remarks following Nos. 2211-2. The chronology of the Greek earrings of this type is also not clear, *ibid.* Introd., p. xxxiii.

⁴ Cf. *Brit. Mus. Cat. Jewl.* Introd. pp. xxxix f., lv. But cf. also Martha, *op. cit.* pp. 568, 570, and several figures on pl. I.

⁵ *Op. cit.* p. 65, note 1.

⁶ Cf. e.g. *Brit. Mus. Cat. Jewl.* pl. XLIII, especially Nos. 2228, 2229.

⁷ Cf. Hadaczek, *op. cit.* pp. 27-45; *Brit. Mus. Cat. Jewl.* Introd. pp. xxxiii-xxxvi.

⁸ Cf. Hadaczek, *op. cit.* pp. 69-73; Martha, *op. cit.* pl. I, Nos. 1, 5, 7, 9, 10, and p. 570. Both Larthia Seianti and Seianti Thanunia on their sarcophagi wear earrings of this sort.

B. RING

A tiny open ring (No. 13.2882), 1.3 cm. in diameter, is formed from a hollow tube terminating at each end in a granulated knob enclosed by a narrow moulding and a row of three granulated triangles (Fig. 16). The ring is slightly bent.

I find no analogy for this strange little ring. It is too small and too thick for the finger. If it is an earring it is much smaller than most earrings of the ring type and is unique, so far as I know, in having both ends ornamented alike.¹ Perhaps it was employed as an ornament attached to another piece of jewelry.²

The art of granulation reached its highest degree of perfection in Etruria during the eighth and seventh centuries³ and was employed more or less from that time on, but it seems to have been used but little on Etruscan jewelry of the fourth and third centuries.⁴ On two fourth century (?) Greek earrings and on a fifth century Etruscan earring in the British Museum, Cat. Nos. 1805, 1808, 2207, granulated triangles resemble the decoration on our ring.

C. NECKLACE

A necklace (No. 13.2879) consists of two strings of glass beads held together at intervals by eleven thin gold rectangular plates stamped in squares and bent so as to form two adjacent cylinders 7 to 8 cm. in length (Fig. 16). The color of most of the beads is a dark translucent blue. A few are yellow. In front are four pendants 2.5 cm. long of very thin gold plate stamped in the form of a woman's face with a rosette above and a ribbed cone below ending at the bottom in a globule. The pendants are hollow at the back. The chain is 26 cm. long and has no clasp. All of the pendants are slightly cracked.

A necklace of the early third century from Teano⁵ offers excellent parallels for our pendants, which appear to be descendants of an early Etruscan prototype.⁶ The gap between the early and the late specimens is wide, but engraved Etruscan and Praenestine mirrors embracing practically the entire interval furnish evidence that necklaces and bracelets adorned with pend-

¹ The two Roman rings in the British Museum, *Cat. Jewl.* Nos. 2611, 2612 are probably small finger rings instead of earrings.

² Cf. e.g. the ring suspended on a bracelet, *Brit. Mus. Cat. Jewl.* No. 2828.

³ Cf. Karo in *Studi et Materiali*, Vol. II, p. 279; C. Densmore Curtis, *Memoirs of the American Academy in Rome*, Vol. I, pp. 63 ff.

⁴ Cf. *Brit. Mus. Cat. Jewl.* Introd. p. lv.

⁵ *Mon. Ant.* XX, cols. 41-42, fig. 23.

⁶ The finest examples are two necklaces from Vetulonia in the Archaeological Museum in Florence. Cf. Karo in *Studi et Materiali*, II, pp. 126 f.

ants did not go out of fashion in Etruria,¹ and there is no reason to suppose that pendants stamped with human faces, after having been once introduced, did not continue to be used alongside acorn pendants and bullae, for example, of the same technique.²

The mirrors also indicate that until the fourth century the pendant was short in proportion to its width, like the early examples cited above. During the fourth century the narrow type like those on our necklace came into style but never seems to have supplanted the other.³ The entire necklace appears usually to have been adorned with pendants, but the mirrors present necklaces similar to ours with pendants only across the front.⁴

The pairs of gold cylinders may be compared with a set of 220 gold ornaments of the fourth to third centuries from a tomb in Todi now in the Villa Giulia.⁵ Exact parallels in form are offered by a third-century necklace from Italy and a late Roman (?) necklace, both in the British Museum.⁶ All of these thin-walled cylinders are presumably a makeshift for some more substantial form of bead.

D. Boss

A circular boss (No. 13.2885) of very thin gold, 3.9 cm. in diameter, is stamped with a woman's face looking to the left, and ornamented on the margin, which is perforated at three points, with a row of beading outside of a delicate moulding (Fig. 16). The woman wears a sort of cap with a short flap at the side and a long one at the back, both turned up and partially concealed by her flowing hair. The tip of a flap on the right side of her cap appears below her chin. The execution is careful, the style typically Etruscan, the condition perfect.

The purpose of this boss is not certain. The thin gold plaques of various shapes and sizes, which have been found in graves of all periods from the Mycenaean to the Roman and were in most cases probably designed for attachment to burial robes, are usually flat. Convex specimens occur very rarely. The

¹ Cf. e.g. Gerhard, *op. cit.* IV, pl. 292; V (Körte), 36; IV, 363.1, 421; I, 44; IV, 293; II, 233; V, 150. It is sometimes impossible to distinguish between pendants and beads, as the string is very often not indicated.

² Cf. e.g. two necklaces of the fifth century from Corneto in the British Museum, *Cat. Jewl.* pl. XXIII, No. 1458 and pl. XLV, No. 2271.

³ Cf. e.g. Gerhard, *op. cit.* IV, pl. 347.

⁴ E.g. Gerhard, *op. cit.* IV, pl. 319 and V, pl. 105.

⁵ Cf. *Mon. Ant.* XXIII, col. 621, fig. 9.

⁶ *Cat. Jewl.* pl. XLVI, No. 2285 and pl. LVI, No. 2699.

British Museum contains the following convex examples of different sorts from various periods: a set of fifty-four gold plaques with convex centre (Nos. 692-693) are Mycenaean and four of them have perforations for attachment; a Greek disk of the fifth to fourth centuries (No. 2109) has three perforations at the edge and a loop at the back; a late Etruscan *bullā* (No. 2312) is composed of two flimsy convex sheets of gold, each perforated at four points to admit the wires that held them together; a gold boss of the Roman period (No. 2906) has four loops on the edge for attachment.¹ But the best parallel for our boss is offered by a set of twenty ornaments from the sarcophagus in Todi which produced the gold cylinders mentioned above. Weege believes these to be button covers. Bendinelli argues that they decorated a leather belt or head-dress.² In view of all these examples our boss might be regarded as the top of a *bullā*, of a brooch, or of a button from which the back was separated and lost, or even as an ornament for attachment to leather. But I consider it far more probable that, whatever sort of ornament of daily use it was supposed to represent, it was designed to be simply sewed at the points of perforation to a burial robe.

Among a number of flat, gold disks published in *Ant. Bosph. Cim.* pl. XXI, most of which are from the mound of Koul-Oba near Kertsch, Nos. 3-7 presenting women's faces in profile are of a type analogous to ours. But our head is much finer and freer in execution than any of these. It excels them all in vigor and freedom of style as far as it is itself excelled in fineness and delicacy by the characteristically Greek face on a similar fourth century disk from Turgan, published in *Compte-Rendu*, 1877, pl. I, no. 2, p. 7.

Excepting the crown, the cap worn by the woman on our boss resembles the Phrygian cap. The crown is typical of the head-dress of many figures on Etruscan mirrors, where it is sometimes the crown of a cap, but oftener the hair itself.

All of the gold objects, therefore, although of little intrinsic value, are interesting as representing either unusual types, or

¹ A Mycenaean stud with traces of bronze lining (No. 614), an Early Italian button (No. 1440) with two rings at the back for attachment, a Greek brooch (No. 2062) of the fourth to third centuries, originally with loop and pin at the back, and a third century Greek boss (No. 2110) are also convex, but without marginal perforations. The two latter at least are sufficiently heavy to have served a practical purpose.

² Cf. Weege in Helbig, *Führer*³, II, p. 329. Bendinelli, *Mon. Ant.* XXIII, cols. 619 f., fig. 7.

types that had passed the time of their highest development. The tiny ring, as has been seen, appears to be without analogy; the boss is most uncommon; the pair of earrings of the pendant type is one of a very small number of preserved specimens; the cylinder-shaped beads in the necklace are unusual, and the only recorded parallel to the pendants is in a necklace that is not later than the early third century; finally, both filigree and granulated work were probably difficult to procure by the end of the third century.

To be sure, it is not impossible that the jewelry is of considerably earlier date than the tomb, but it is not at all probable that such flimsy objects were kept long either in a shop or in a home. They seem rather to be, like most of our vases, exceptionally good illustrations of the decadence of Etruscan art during the third century.

IV. IVORY

1.—Four dice (Nos. 13.2896-9), very well preserved, measure approximately 1 cm. each way (Fig. 17). They are marked by circles with a dot in the centre, except the ace, which has two concentric circles with a dot. The sum of the spots on opposite faces is seven.

The dice represent a common type that has never gone out of use from early antiquity to the present day.¹ A die in the form of a parallelopiped was also used in antiquity and appears to have been especially popular in Etruria.

The ancients seem generally to have employed the system of marking that prevails at present, which makes the sum of the spots on opposite faces equal to seven,² but on many Etruscan dice the consecutive numbers are opposed, that is, one is opposite two, etc.³ This seems to be the regular method for parallelopipeds.⁴ The spots are generally enclosed in a circle or concentric circles. The material is usually bone or ivory.⁵

The striking prevalence of dice in Etruscan tombs is presumably due rather to their significance as a symbol of the un-

¹ One Greek tradition attributes the invention of the game of dice to Palamedes, another traces it from Egypt or the East. Cf. Daremb. et Sagl., *s.v.* 'Tessera,' p. 125 and references.

² Cf. Daremb. et Sagl., p. 126.

³ Only one die is on record that is not marked in one of these two ways. Cf. Skutsch in Pauly-Wissowa, *s.v.* 'Etrusker,' col. 801.

⁴ Zannoni, *Scavi della Certosa di Bologna*, pls. XXXIV, figs. 7-9; XXXIV, 5; L, 7; LXIII, 13; CVI, 3, 4.

⁵ Cf. Daremb. et Sagl., *l. c.*

certainty of life than to their popularity as a game. This symbolism would appeal strongly to the Etruscan mind, whereas the monuments which the Etruscans have left to us in the largest numbers, the engraved bronze mirrors, do not bear evidence that the game formed a prominent feature of their daily life. I know of but one mirror that represents persons at dice.¹ On the board here depicted lie two dice, the number regularly used, and apparently two are as a rule found together. Zannoni records

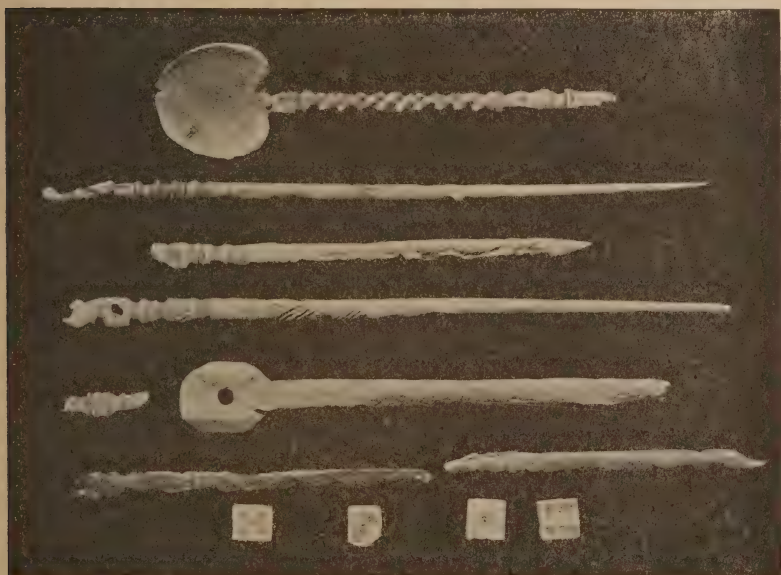


FIGURE 17.—IVORY DICE, STICKS, AND SPOON.

one group of two parallelopipeds and one cubical die,² but I find no reference to any other tomb containing two pairs as ours does.

2.—Six ivory sticks decorated, with one exception, by horizontal mouldings or incised patterns or both. Apparently all had holes at the top (Fig. 17).

The best preserved example (No. 13.2894) is 19.8 cm. long and still retains a high polish on much of its surface. A ring at the top ends on one side in a small, quaintly moulded duck's head attached to the stick between the up-turned tips of two delicate, heart-shaped leaves; the other side is lost.

A second stick (No. 13.2892) also has much of its surface well preserved but both ends are gone.

¹ Cf. Gerhard, *op. cit.* V (Körte), No. 109. To be sure, scenes from daily life are not frequent on mirrors.

² Cf. *op. cit.* pl. CVI, figs. 2-4.

Three other specimens similar to the last are badly mutilated.

A sixth stick undecorated and heavier than the others, is 14.3 cm. long, 8 mm. thick, and has a large, flattened, oval head with a perforation in the centre. A shallow longitudinal groove marks the stick on one side. The tip is gone.

Numerous scenes on Etruscan engraved mirrors make it clear that our ivory sticks belong to a class of articles without which no Etruscan woman's toilet set was complete. They are seen oftenest in the hands of women who are also provided with an alabastron, so we may safely infer that they were designed to be dipped into the contents of the vase. In fact the inference is verified by the mirror, Gerhard, *op. cit.* IV, pl. 282, which shows a woman holding her stick inserted in an alabastron. Again to judge from the evidence of mirrors, these sticks appear to have been used principally in dressing the hair.¹ On the mirror reproduced above (Fig. 12) the crouching figure admiring her fresh coiffure still holds her stick in her hand. The ointment vase is suspended. These sticks were doubtless used not only to apply pomade to the hair, but at the same time to separate and arrange the locks, to form the wonderful rolls or puffs, for example, of which the Etruscans were so fond.²

Since so many mirror scenes which have nothing to do with the toilet represent women provided with a stick and an alabastron, it looks very much as though the coiffure of Etruscan ladies was rather an unstable, temporary affair, to repair which at any time or place was in complete accordance with society etiquette.³

¹ Cf. for example, Gerhard, *op. cit.* I, pl. 213; IV, 318¹, V, 102, and the cista referred to in *Bull. Inst.* 1865, p. 56, all representing this manner of employment. The mirror, V, 22, shows a hair-dressing scene in which one of the attendants, with a stick in one hand and an alabastron in the other, is awaiting her turn.

² This use gave these sticks the name *discerniculum* or *acus discriminialis* among the Romans (Daremb. et Sagl., *s.v.* 'Acus' p. 63 and references in note 32). Roman women apparently extended this use of the *discerniculum*. Cf. Juvenal, *Sat.* II, vss. 93-95. Possibly the stick is employed on the mirror, Gerhard, IV, pl. 319, to apply unguent to Venus' face, but more probably it has just been used on her hair.

³ A most interesting scene in this regard occurs on a late South Italian vase published in Conestabile, *Pitture Murali a Fresco e Suppellettili Etr. scop. presso Orvieto*, p. 161, on which an Eros with alabastron and stick is busy "touching up" the hair of a maenad while Bacchus caresses her on his knee. Equally interesting is the mirror, Gerhard, *op. cit.* I, 82, where a winged goddess with stick and alabastron arranges Zeus' hair in a scene representing the birth of Bacchus. Apparently vanity was not confined to women in those days.

The hole through the top of our sticks is doubtless for the insertion of a string. Nothing of the kind appears in the illustrations above noted, but the same is true of the alabastra, which we know were regularly suspended, and it is most unlikely that such apparently indispensable objects could not be hung on the wrist.

I find no published specimens with which our nicely carved sticks can be compared.¹ If they are common in collections, no one seems to have considered them worthy of special notice.

3.—A spoon (No. 13.2895) with a heart-shaped bowl has its rectangular handle decorated at the top and bottom by horizontal mouldings, and in the middle by alternating rows of large and small horn-like projections (Fig. 17). It is 13.7 cm. long. The handle is repaired in two places, the tip is missing, and the bowl is reattached.

Spoons substantially like ours of today have been in common use since early antiquity,² and their purpose has naturally never varied much. I consider it highly probable that our spoon belonged among the toilet articles designed for mixing liquids or paints, although no ancient author appears to have mentioned this use of the spoon.³ As today, so in antiquity, spoons were made of all sorts of material. Ivory spoons were not rare in Egypt, but in the Greek and Roman periods bronze and silver seem to have predominated.⁴ I find only one Etruscan spoon published, a carved bone specimen from Vulci.⁵

4.—A group of flat ivory fragments (Fig. 18) consists of the following pieces: fourteen very narrow strips, seven being intact with both ends mitred; fifteen wider strips marked by two longitudinal grooves and presenting two perforations, among which three short pieces are mitred at both ends and several fragments at one end; six fragmentary strips a trifle heavier, with grooves equidistant from the edges; ten strips of varying widths incised with longitudinal and cross lines in which much black paint still remains, for the most part carelessly scratched on the reverse side in hatched or cross-hatched pattern and presenting two perforations with stains of oxidization around one of them; twelve undecorated pieces which constituted rectangular portions, three of which are almost entire; fragments of two thin, undecorated "X-shaped" pieces scratched on the reverse surface with cross-hatching; two disks with central portion raised and perforated by holes into which fit two pegs with coni-

¹ The unornamented stick probably served some other purpose.

² Cf. C. J. Jackson, 'The Spoon and Its History,' *Archaeologia*, LIII, pp. 107 ff.

³ Cf. *Not. Scav.* XIII, p. 25.

⁴ Cf. Jackson, *op. cit.* p. 110.

⁵ Cf. Jackson, *op. cit.* p. 111, fig. 19.

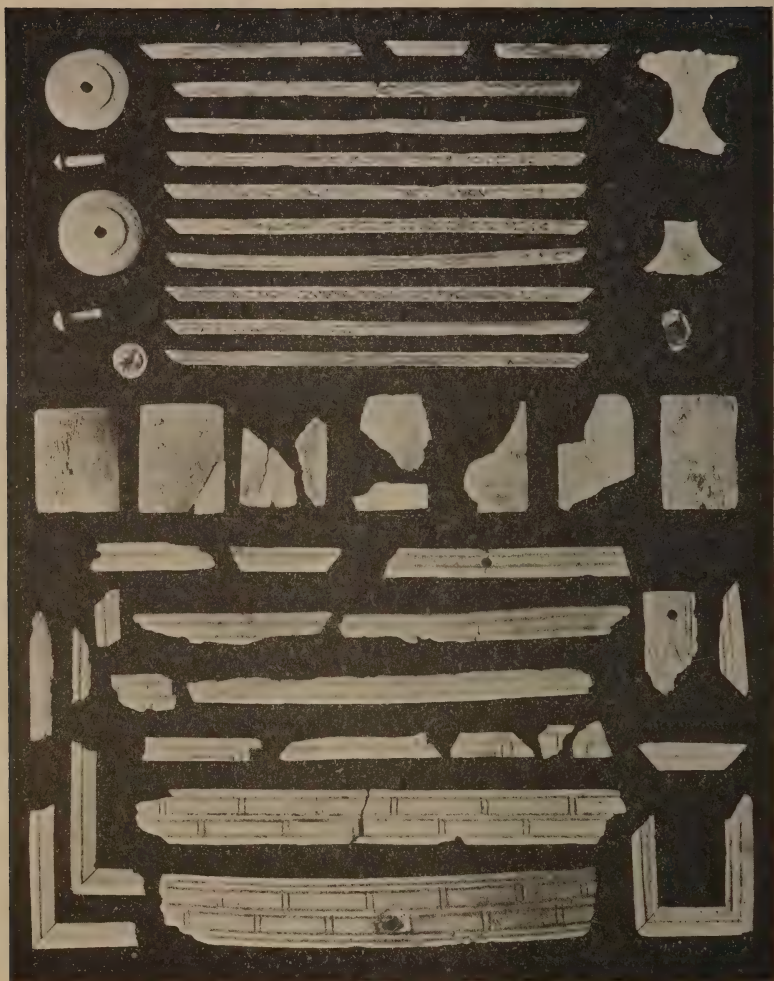


FIGURE 18.—IVORY FRAGMENTS FROM BOXES.

cal heads indented at the top; a tiny disk in two parts with remains of an iron peg in the central perforation and traces of oxidization on one surface; a fragment of a disk with a considerable portion of an iron peg, including the much oxidized head. Parts of two other small disks also remain.

These fragments presumably constituted the remains of one or more boxes. The pieces are for the most part so thin that they were doubtless provided with a lining of wood to which they were attached by means of glue and pegs. The narrowest strips, of

which there were probably twelve, might have formed the border for the cover and the upper and lower edges of a square box. The pattern on the widest strips is presumably an imitation of masonry. Perhaps the "X-shaped" fragments were parts of the top of a box with circular openings for separate compartments.¹ The presence of stains on the smallest disks and around the perforation in the widest strip suggests that these disks were attached to the box by iron pegs that held the ivory coating to the lining.

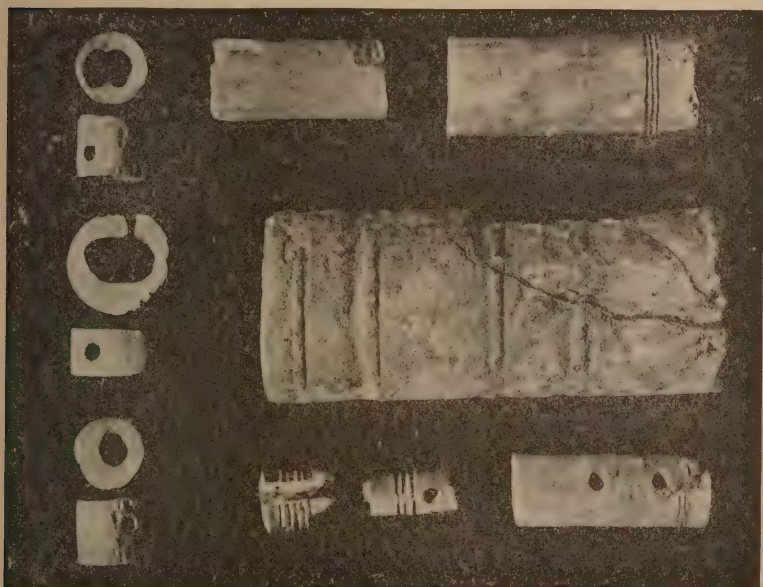


FIGURE 19.—IVORY MIRROR-HANDLE AND CYLINDERS.

The scratched hatching on the reverse side of a number of the pieces was presumably designed to afford a more adhesive surface for the glue.

5.—A hollow mirror handle (No. 13.2901), 9.5 cm. long and 4 cm. in diameter, is encircled by five mouldings (Fig. 19). A large piece is reattached. A small portion is missing and the entire edge at one end slightly damaged.

This handle presumably belonged to one of the bronze mirrors which the tomb contained.²

¹ Cf. e.g. a cista from Civita Castellana, *Cat. Bronzes in Brit. Mus.* p. 105, fig. 16.

² The same sort of handle appears sometimes to have been used on the large Etruscan fans. Cf. *Mon. Ant.* XXIII, col. 632, note 2.

6.—Each member of a series of hollow cylinders (Fig. 19), ranging from 5.1 to 3.2 cm. in length, has its wall on one side perforated in two places, and all but two are encircled near one end by a group of three incised lines, in many of which traces of black paint remain. Two cylinders of the largest size are practically intact, four, somewhat smaller, are injured, and fragments of at least four others remain. Two, 3.1 cm. long and well preserved, have only one lateral perforation. Three, smaller and solid, are provided with terminal mortise and tenon so that they fit together into a symmetrical whole with three lateral mortise-holes sunk over half-way through, three incised rings between each pair of holes, and smoothly polished ends. The entire length is 5.2 cm. One fragment, about 1.2 cm. in diameter and encircled by five incised lines, is split open, revealing an oxidized iron peg running through it longitudinally. A small lateral perforation on each side of the break indicates a repair in antiquity.

The remaining objects of this group may be defined as sections of hollow cylinders like those above described, ranging from 2.2 to 1.5 cm. in diameter. Each has one lateral perforation. The largest specimens, of which seven either entire or fragmentary remain, are 1 cm. high, three are 1.3 cm., and the remaining, ten entire and at least fourteen in fragments, are 7 to 8 mm. high.

The purpose of these objects is by no means clear. A few ivory cylinders with mortise-holes, and some hollow like ours, were found in Ephesus. The latter Hogarth calls "joint-pieces."¹ But our cylinders are much more numerous and more homogeneous. It is barely possible that they formed a pair of pipes from which the mouth-pieces, perhaps of wood, have disappeared. The combined length of the existing fragments approximates 85 cm., a measurement which would correspond very well to two ordinary pipes.² But there are a great many more holes than could possibly be employed in actual flutes.³ However, the argument could readily be offered that the pipes, like so many other objects in the tomb, were made only for burial. The composition in segments may be in imitation of the bands that were used for closing the holes on flutes in the later stages of their development.⁴

As another mere possibility it may be worth while to suggest a necklace, in which case the lateral perforations on the cylinders would presumably have served for the attachment of pendants

¹ Cf. *British Museum Excavations at Ephesus*, pl. XXXIX, Nos. 11, 12, 14, 15; pl. XLI, Nos. 2, 3, 5-15, 17; p. 197. Two bone cylinders similar to two of our types were found in Corneto (*Mon. Ined.* X, pl. X, d, figs. 20, 20a) but Helbig makes no suggestion as to their use.

² Cf. *Harvard Studies*, IV, p. 41; *J.H.S.* XXXIV, p. 91.

³ Cf. *Harv. St.* IV, pp. 5 f.; *J.H.S.* XXXIV, pp. 93 ff.

⁴ Cf. *Harv. St.* IV, pp. 7 f.; *J.H.S.* XXXIV, pp. 102 f.

or for the insertion of ornaments. Neither the length nor the weight of a necklace thus composed would constitute ground for suspicion, as Etruscan monuments abundantly testify, but I know of no representation of a necklace of such a type.

A third possibility, suggested by Miss Richter, is that they formed part of an ivory staff with a wooden core, to which the cylinders were fastened through the holes. No such staves seem to have been identified among the contents of Etruscan tombs, but there is nothing inherently improbable in their existence.

V. GLASS

1.—A badly damaged alabastron of "Phoenician" glass (No. 13.2900), 6 cm. in length, is decorated with white and yellow on an azure background (Fig. 8, c). Lines encircle the neck, and the upper half of the body is covered with loop pattern.

The vase represents a well known type which, originating in Egypt as an imitation of vases made for daily use of alabaster or clay, spread over the entire ancient world and finally became a great favorite as a burial gift.¹

2.—Twenty hemispherical objects of glass vary from 10 to 12.5 mm. in diameter. One is the color of amethyst and translucent, four are colorless and transparent, four solid black, five sea-green and transparent, six indigo blue and transparent. All have patches of iridescent patina. None bear any trace of paste or glue.² One is broken.

These objects, which are found in all parts of the ancient world, were doubtless used in some capacity, probably as counters, in some game played with dice. I find no definite record of their occurrence in a tomb where there were no dice,³ nor, on the other hand, do I know of any certain instance of dice being found without either these tiny hemispheres or similar objects of irregular form.⁴ They seem to occur in all quantities, but they are so easily lost that an entire set is doubtless rarely preserved.⁵ The material is usually glass or paste.

¹ Cf. Kisa, *Das Glas im Altertume*, II, pp. 401 ff.

² Cf. Eisen in *A.J.A.* XVI, p. 303.

³ Cf. e.g. Zannoni, *op. cit.* pls. XXXIV, figs. 11, 7; L, 26-7, 28-30, 7; CVI, 5-7, 2-4, p. 372; pl. CXIV, 7. *Not. Scav.* 1899, p. 163, figs. 13a, 13. *Mon. Ant.* IX, pl. XI, 5, 4. A statement made by Kisa (*op. cit.* I, p. 142) seems to imply, however, that this rule is not invariable. He calls them *Spielsteine*.

⁴ Cf. e.g. Zannoni, *op. cit.* pls. XIII, figs. 9-10, 19-40; XXXIV, 5, p. 174; LI, 14-15, 7-13, p. 225; LXIII, 13, 14-17, p. 247; CXXXVI, 5; p. 397. *Röm. Mitt.*, I, p. 221.

⁵ The tombs cited above contained from one to twenty-four.

VI. BRONZE

1.—Six bronze mirrors, all badly corroded and most of them broken, range from 18 to 7 cm. in diameter. Only three preserve traces of engraving. On the largest a scene with four figures, of which only one, an old man at the left partially draped and leaning on a staff, is clearly distinguishable, may be compared in style and composition with Gerhard, *op. cit.* IV, pl. 374. Two mirrors present a winged *Lasa*, one nearly effaced, the other in the very common third century form represented by the mirrors in Gerhard, *op. cit.* pls. 31 ff.

A quantity of fragments of bronze plate are presumably the remains of other mirrors.

2.—Six bronze nails, more or less bent and broken, have round, convex heads 1.6 cm. in diameter.

3.—Several pieces of bent bronze wire, four of them 15 to 20 cm. long, are possibly, as suggested by Mr. Caskey, the remains of a wreath, although no leaves are preserved.

VII. LEAD

A number of lead fragments seem to be parts of a vase with a small, flaring mouth. A small lead vase was found in the same tomb with the bronze, cauldron-shaped vase from Perugia mentioned above. Cf. *Not. Scav.* 1900, pp. 556 ff., fig. 7.

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CAMBRIDGE, MASS.

September, 1917.

THE SO-CALLED ATHLETE'S RING

IN these days when machinery accomplishes so much for us, we hardly realize to what extent important operations in antiquity were dependent upon hand or foot labor. My present problem is concerned wholly with the employment of the latter.

We may first refer to the fuller (*κραφεύς*, *fullo*), who fulfilled largely the functions of the modern washerwoman or, if you will, public laundry. One of his jobs was to stamp up and down in a vessel, vat, or mortar (*pila fullonica*) which contained the clothes that were being cleansed. Seneca in one of his letters (II, 3 (15), 4), enumerating various physical exercises, speaks of high and broad jumping and, thirdly, of the kind that the Saliî did. This in somewhat slighting language he would also call the *saltus fullonius*. He probably had in mind the *βίβασις* which gave Lampito in Aristophanes' *Lysistrata* (80 ff.) her fine complexion and muscle, and in which another Spartan lady of whom we hear in Pollux (IV, 102) managed to kick herself a thousand times.¹

Naturally a fuller would have great difficulty in performing his *saltus* standing free, and so we are not surprised to find in our ancient representations of treading the clothes that he might rest his arms on the partitions which separated, at about the height of his armpits, the niche in which he worked from those adjoining, or according to another arrangement, grasp handrails erected on the sides of the vat to about the level of his waist.² If two fullers ever worked in the same vat, we may assume that

¹ On *saltantes Lacænae* see Mercurialis, *De Arte Gymn.* p. 161; Krause, *Die Gymn. und Agon.* I, p. 398, note 11.

² For the former method of maintaining equilibrium see the picture from a *fullonica* at Pompeii reproduced in Blümner, *Technologie und Terminologie der Gewerbe und Künste*, I², p. 186, fig. 70; Schreiber, *Atlas of Class. Antiq.* pl. LXXV, 7; Baumeister, *Denkm.* p. 2084, fig. 2327; Ménard, *La Vie Privée des Anciens*, III, p. 125, fig. 151. For the latter, Blümner, *op. cit.* p. 189, fig. 75, a relief in the Museum of Sens which is also reproduced in Schreiber, *op. cit.* pl. LXXV, 12; Baumeister, *op. cit.* p. 2084, fig. 2330 and Ménard, *op. cit.* III, p. 121, fig. 147.

they balanced themselves in the same way that the grape treaders did to whom we are presently coming.

Passing now to another occupation, the manufacture of olive oil, we find a similar resort to foot power; for contrary to the impression that certain¹ among our manuals give us, there can be no doubt that the extraction of the oil was not done by machinery alone. The crucial passage is in Columella, XII, 52, 6: *oleo autem conficiendo molae utiliores sunt quam canalis et solea. molae quam facillimam patiuntur administrationem; quoniam pro magnitudine baccarum vel submitti vel etiam elevari possunt ne nucleus, qui saporem olei vitiat, confringatur. rursus trapetum plus operis faciliusque quam solea et canalis efficit.* Blümner,² Schneider,³ Gesner⁴ and others⁵ who have dealt with this fail to recognize that *solea* and *canalis* do not refer to any machine at all, but, on the contrary, to the use of the human foot, wearing a sandal, and of receptacles for the olives and the oil that is pressed from them, a method that must have minimized the danger of vitiating the *sapor olei* by any crushing of the *nucleus*. This interpretation occurred to me independently but I have since found that others have advanced it as a probability.⁶ It would, indeed, have been surprising, if the poorer class of olive growers could afford a sufficiency of machinery for all the work. As a matter of fact, I have now found several passages⁷ in Greek lexicographers that ought to put the question beyond the possibility of a doubt. These state that Boeotians trampled the olives wearing sandals consisting of a wooden sole, ξύλινα ὑποδήματα, the Italian *zoccoli*. They are variously called in our ancient authorities κρουπέζαι,⁸ κρουπέζια,⁹ κρούπανα,¹⁰ κρούπαλα¹¹ or κρούπετα.¹² This foot gear

¹ Compare e.g. *Cat. of the Brit. Mus. Exhib.* p. 211.

² *Die Römische Privataltertümer*, p. 573; *Techn. u. Term.* I², p. 343: "was das aber für eine Maschine war, ist nirgends angedeutet und aus der Benennung nicht zu entnehmen."

³ *Script. rei rusticae*, II, pt. ii, p. 660, note.

⁴ *Lexicon Rusticum* s.v. 'Solea': *quale hoc instrumentum fuerit, non habeo dicere.*

⁵ Forcellini s.v. 'Solea': *sed res adhuc obscura manet*; Smith, *Dict. of Ant.* s.v. 'Solea': "a kind of oil-press."

⁶ Daremberg et Saglio, s.v. 'Olea'; Smith, *op. cit.* s.v. 'Trapetum.'

⁷ Hesych. s.v. κρουπέζούμενος; Photius s.v. κρουπέζαι.

⁸ Pollux VII, 87; Phot. s.l.; Eustath. 867, 29. See especially Meineke, *Fragm. Com. Gr.* I, p. 336.

⁹ Pollux X, 153; Hesych. s.v.

¹⁰ Hesych. s.v.

¹¹ Soph. *Fragm.* 43; Hesych. s.v. κρουπαλλας.

¹² Hesych. s.v.

was, indeed, in such common use in rural Boeotia that the comic writer Cratinus¹ called the inhabitants a κρουπεζοφόρον γένος ἀνδρῶν. Sandals made of wood are also mentioned in Latin literature² and seem to figure along with any clogs or sabots cut out of the same material under the general name *sculpon:ae*³ as the typical *rustica calceamenta*.⁴ If foot covering is still worn occasionally by those who tread the grapes,⁵ how essential must it have been to those who had to crush the harder fruit of the olive!

But there is monumental evidence also that the ancients sometimes crushed the olives by trampling, namely the fragment of a sarcophagus relief in the Palazzo Rondinini which is described by Blümner in the *Archäologische Zeitung* and there pictured.⁶ A winged genius or Eros stands deep in the olives holding with his left hand something that has baffled everybody to identify. Blümner (p. 54) says "vermuthlich einen Stab," while Schreiber⁷ was of the opinion that it was something for raising the heavy beam of the oil press, *prelum*, which we see in the background; but in that case the operator would hardly have had his back to it or been grasping the rope (or whatever it is) with but one hand. In his *Technologie und Terminologie* (I², p. 351) Blümner suggests that it may be a "Strick" but effectually disposes of any idea that it was attached to the press as a means of drawing down the heavy beam. I have found, however, among Egyptian pictures of the manufacture of wine two which, I judge, will definitely settle the matter. In one⁸ seven men are seen treading the grapes in a vat, each grasping with one hand his own separate rope suspended from above, while in the other⁹ there are

¹ Meineke, *op. cit.* II, pt. 1, p. 225, CLIII. Pollux VII, 87 is not quite right in his interpretation.

² Petron. 95, 8: *soleae lignae*.

³ Cato *Agr.* 59 and 135; Plaut. *Cas.* 495; Naevius in Fulg. 562, 23; Non. 164, 20; *C.G.L.* (Goetz) V, 187, 13 and 617, 21.

⁴ Isid. XIX, 34, 13.

⁵ Gardner, *The Brewer, Distiller and Wine Manufacturer*, p. 216.

⁶ *Arch. Ztg.* XXXV, 1877, pp. 53-54 and pl. VII, 1. Daremberg et Saglio, *s.v.* 'Olea' (IV, p. 167 with fig. 5391) explain: "un petit génie les foule aux pieds pour mieux les tasser," which would seem to be a quite superfluous labor. Our other interpreters all recognize the process as one of crushing the fruit. See too Baumeister, *op. cit.* p. 1047 and fig. 1262.

⁷ *Op. cit.* pl. LXV, 13.

⁸ Wilkinson, *The Manners and Customs of the Ancient Egyptians*, I², p. 385, fig. 161. See also Ménard, *op. cit.* III, p. 67, fig. 70.

⁹ Ménard, *op. cit.* III, fig. 69.

four and the cords which they grasp are fastened to a pole which extends above their heads between two trees.

When we turn to our study of the making of wine among the Greeks and Romans we have the help of ampler illustration in surviving monuments. When several persons are treading the grapes in the same vat, the artist represents them sometimes as supporting themselves by staves with a forked end.¹ These may have served as vine props or may possibly have been the upright pieces of the *patibula* that Cato² mentions among the instruments for viniculture. More frequently, however, the treaders clasp hands,³ or hold on to each other's shoulders⁴ or bodies,⁵ or intertwine their arms, or, if there are only two, they may grip a ring formed of rope or one made apparently of osiers or vine branches.⁶ It is quite exceptional to find a person at work with no support at all.⁷ Those who balance themselves with the ring especially interest us, since they at last give us, I think, the correct explanation of a word which occurs not infrequently in Cato's *De Agricultura* and, best of all, permit us to identify certain bronze implements that have long mystified the archaeologist.

¹ Reinach, *Répertoire de Reliefs Grecs et Romains*, III, pp. 294, 1; 427, 4.

² *Agr.* 26 and 68. The theory that the *patibula* were step ladders (Gesner, *Lex. Rust. s.v.*) is untenable; see Pliny *N. H.* XVIII, 212 and Dar. et Sag. *s.v.* 'Crux.'

³ Reinach, *op. cit.* III, p. 150, 3; p. 283, 2-4; p. 427, 4; Millin, *Galerie Myth.* I, pl. LVI, 269.

⁴ Reinach, *op. cit.* III, p. 293, 3; p. 294, 1; p. 370, 1; Zahn, *Die Schönsten Ornamenten und Merkwürdigsten Gemälde aus Pompeji*, 3 Folge, Taf. XIII; Espérandieu, *Recueil Général des Bas Reliefs de la Gaule Romaine*, I, p. 400, fig. 637 = Reinach, *op. cit.* II, p. 231, 4.

⁵ Reinach, *op. cit.* III, 370, 1 = G. B. Piranesi, *Opere Scelte, Vasi e Candela-bri*, pls. XXIV, XXV, B.

⁶ Walters, *Cat. of the Terracottas in the Brit. Mus.* pp. 389-390, D 543-D 549.

⁷ In the case of the single figure on the well known vase which is reproduced e.g. in Mau-Kelsey, *Pompeii*², p. 416, fig. 239, Overbeck-Mau, *Pompeji*, p. 626, fig. 320 and Reinach, *op. cit.* III, 73, fig. 1, Ruesch, *Guida Illustr. del Mus. Naz. di Napoli*, p. 397, No. 1842, says that the Eros clasps a thyrsus, but it may, after all, be a support such as we have noted. Finati in the *Real Mus. Borbonico*, XV, Tav. LV-LVI, p. 2, elucidates as follows: "E merita di esser rimarcato il Genietto che piglia le uve starsene vivacemente con un lungo pistello, a guisa di vincastro, nell' attitudine di pestar le uve con misura di tempo, sia che esso la indichi a due suonatori, sia che di costoro segna la cadenza, per rendere men faticoso e più regolare il suo lavoro." In other scenes the operators are represented with shorter sticks or the like.

Perhaps the best known representation¹ of this sort is that which Welcker discusses in his *Alte Denkmäler*, II, pp. 113–121, as an “Idealische Vorstellung des Kelterns.” He rightly decides that the two satyrs in the vat are not grasping the ring in some exercise or game of pulling and hauling each other over round pebbles to the music of the pipes² but rather in treading fruit such as the fourth satyr in the scene is bringing in a basket. This fruit looks more like olives³ or even like apples than like grapes, but must be identified as the last because of other representations of the same type which picture the clusters accurately. The other monuments,⁴ however, invalidate Welcker’s further theory⁵ that the two satyrs are swinging each other around in a sort of dance with the help of the ring. On the contrary, the treaders are merely jumping backwards and forward in a sort of exaggerated *saltus fullonius*, shall I say, an alternating movement of their legs which would certainly better accord with pipe playing when its rhythm was emphasized by the beat of a foot-clapper, *scabellum* or *scabillum*, than any swinging over slippery fruit could do.

Now we have, I think, in literature some references to the implement with which pairs of grape or olive treaders would maintain their equilibrium in the crushed fruit, a ring or circle of some sort, such as I have been told is still used in Italy for the purpose. The Romans called them *orbes*, a term often used, as any Latin lexicon will show, for rings, hoops, or other objects of that shape, as well as for discs. While rope or withes might constitute a makeshift circle, permanent rings would be cast in bronze and be kept between seasons along with other apparatus of the grape and olive pressing in the store-room.⁶ So Cato lists among the implements necessary for the equipment of the owner of an *oletum orbes aheneos* II.⁷ He cannot here be referring to any

¹ Readily accessible in Baumeister, *op. cit.* III, p. 1564, fig. 1627, taken from Zoega, *Bassiril.* II, 87. Cf. Reinach, *op. cit.* III, p. 144, 2.

² As, for instance, Becq de Fouquières, *Les Jeux des Anc.*, p. 96, interpreted it.

³ Recalling, therefore, the olive pressing scene already discussed. Grapes are elsewhere represented as stemless and of many times their natural size. Compare Reinach, *op. cit.* III, p. 283, fig. 2–4.

⁴ For instance, one of the Campana plaques, Reinach, *op. cit.* II, p. 276.

⁵ *Op. cit.* p. 113. In Nicander, *Alex.* 30 ff. the whirling, drunken dance of the Sileni comes after they have trodden out the grape juice, and, therefore, the passage is no support to Welcker’s interpretation.

⁶ Cato, *Agr.* 68.

⁷ Cato, *Agr.* 10, 4.

part of the mills or press,¹ nor to an *operculum aheni*²; for these are mentioned elsewhere in the chapter, and the same statement applies to 11, 2, where among the implements provided for the various processes of viniculture and winemaking, we again have mention of the *crbem aheneum*. So, too, in 13, 1 among the furnishings of the pressroom, *torcularium*, this same ring of bronze occurs.³ In all these places the commentators have been unable to determine the meaning of the term.

Now as to surviving specimens, may I venture the belief that we have them in the so-called "athlete's rings,"⁴ the identification and use of which have always been regarded as quite problematical, although they are sufficiently numerous? We have information, to be sure, about various games that involve pulling and hauling in which theoretically such an implement as the ring might have been put to use in cases where the contestants in the two opposing parties struggled by pairs, but actually they seem to have used only a length of rope, if they did not clasp each other by the hands or the like.⁵

We learn that these rings have come to light in greatest number in Picenum,⁶ which I note was a great olive producing country; but Etruria also has yielded not a few.⁷ The half dozen double cone-shaped, knot-like proturbances that are characteristic of these bronze rings are sometimes spaced equally from one an-

¹ Compare the stone grinder of 3, 5 and the wooden pressboard, *orbis olearius* of 18, 19.

² Cato, *Agr.* 10.

³ The corruption in the mss. makes 14, 2 unavailable in our discussion.

⁴ *Cat. of the Brit. Mus. Bronzes*, p. 339, No. 2692, with a diameter of five inches, has four knots, the following three numbers each six knots and a diameter respectively of $6\frac{3}{4}$, $8\frac{1}{2}$, and $8\frac{1}{4}$ inches; Schumacher, *Beschreib. der Antiken Bronzen zu Karlsruhe*, p. 167; Montelius, *La civilisation Primitive en Italie*, Ser. II, vol. I, p. 765, pl. 161, fig. 4; *Not. Scav.* 1901, fig. 6 c; p. 234: "Sull'uso loro si è tuttora incerti: alcuni li credono oggetti di ginnastica . . . altri crotali od oggetti musicali . . . altri fermagli di fascia." When struck they yield a hopelessly unmusical sound, a thud.

⁵ To such games we have reference in the expressions *παίζειν ἐλκυστίνδα*, *διελκυστίνδα* and *διὰ γραμμῆς*. That called *σκαπέρδα* is different. See Grasberger, *Erziehung und Unterricht*, I, pp. 99-100; Daremberg et Saglio, *s.v.* 'Gymnastica', p. 1700^a; Smith, *op. cit. s.v.* 'Gymnasium,' I, p. 929^a; F. D. Allen, *Harvard Stud.* IV, 1893, pp. 151 ff. on *πεῖραρ ἐλεῖσθαι* and *manus consortio*.

⁶ *Not. Scav.* 1901, p. 233: "Anelloni di bronzo, caratteristici del Piceno inferiore."

⁷ Schumacher, *op. cit.* p. 167, No. 873 (1124-1125).

other, but also in some specimens at varying distances, so as better to accommodate, it would seem, the gripping of the hand.¹

Finally, I come to what has been my chief inspiration to write this article, a splendid specimen in the Museum of the University of Pennsylvania which has the usual six projections



FIGURE 1.—“ATHLETE’S RING”: UNIVERSITY MUSEUM, PHILADELPHIA.

unequally spaced (Fig. 1). This has long rested in the same case with a piece of a vase which Dr. Stephen B. Luce, the Curator, has kindly



FIGURE 2.—FRAGMENT OF ATTIC VASE: UNIVERSITY MUSEUM, PHILADELPHIA.

identified as a fragment of an Attic black-figured hydria that was made about 525 B.C. (Fig. 2). The scene depicted on this would seem to be a procession to the music of a cithara played by a

¹ Schumacher, *l.c.* Knots, however, also had value as amulets; compare *e.g.* Heckenbach, *De Sacris Vinculis*, p. 110.

man. At the side of a second male figure we see a woman who holds in front of her in one hand a ring which strongly resembles these that we have been describing, except that it is somewhat larger and presents perhaps ten¹ knobs in its circumference. If the object is the same, we should naturally conjecture that the group is concerned with some festival of the Wine-god and perhaps carrying the bronze ring as the most suitable votive offering² to make at his shrine, the symbol of the operation which has called forth in all ages and among all peoples the most merry-making, music, and song. So we are told, for instance, in Judges IX, 27³: "And they went out into the fields and gathered their vineyards, and trode the grapes and made merry, and went into the house of their god and did eat and drink, and cursed Abimelech"; and so far as our classical peoples are concerned, we have ample information, as everybody knows, about their playing on the cithara and the lyre, their dancing and singing and jesting, not only in their literatures from Homer⁴ downwards but in surviving monuments. In these we have noted satyrs providing the music for a rhythmic *saltus* on the pipes with the accompaniment of the *scabellum*⁵ or some performer on the pan-pipes.⁶

¹ In this particular it recalls the ring around the archaic bronze head which Brunn describes in the *Archäologische Zeitung*, XXXIV, 1876, p. 24, pls. III, IV, but the pictures show that it is different.

² The *ληνοβάτης* or *calcator* would show his gratitude for a successful vintage (or olive pressing) by dedicating either an important implement or the model of one, as e.g. in Longus, *Daphnis and Chloe*, I, 4, the shepherds had dedicated their milkpails as well as their musical instruments (cf. IV, 32), and in Philostratus, *Apoll. Tyan.* II, 8, models of scythes, baskets, winepresses, etc., are mentioned as the offerings in a shrine of Dionysus. For similar practices among the Romans see De Marchi, *Il Culto Privato di Roma Antica*, I, pp. 296; 297, note 6; 301.

³ Compare Jeremiah XLVIII, 33.

⁴ Homer *Il.* XVIII, 570. Especially interesting is that spectacular procession of Ptolemy Philadelphus (Athen. V, 199 A) in which there was a wagon on which was an enormous vat full of grapes, which sixty satyrs under the presidency of Silenus trampled, singing a song in praise of the wine press to the music of the pipes, while the new wine poured out over the whole road.

⁵ The foot castanets were called *κρουπέσαι*, since the top clapper might be constructed as a sort of shoe in which the piper placed his foot in order to work it. See Photius *s.v.*; Pollux VII, 87; X, 153; Schol. on Aeschylus in Meineke, *Fragm. Com. Gr.* I, p. 336. The suggestion in Harper's *Latin Dictionary* that *scrupeda* or *scrupipeda* is this word in Latin disguise is perhaps correct, although the etymologists have wrestled with it dubiously (e.g. Walde, *Etym. Wörterb. s.v.*). In this connection compare especially Hesychius, *s.v.* *κρουπέζουμένος*.

⁶ Reinach, *op. cit.* III, p. 73, fig. 1; Ruesch, *op. cit.* No. 1842.

We have now seen that in certain treading operations fullers and manufacturers of olive oil and of wine required a support in order to maintain their equilibrium. Among other means of balancing themselves, a pair might resort to the use of a ring of some sort. Bronze specimens of these seem to be intended by the term *orbis aheneus*, an implement until now unidentified in the equipment which Cato mentions as necessary to the olive presser and grape presser. According to our theory of identification such rings have been found in various places and in especially large number in the famous olive growing regions of Italy. Originals or models might naturally be carried in a Dionysiac procession and dedicated as votive or thank offerings for a successful harvest to the proper deity.

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NOTES ON THE ERUPTION OF VESUVIUS IN 79 A.D.

MANY years ago I spent on various occasions considerable time at Pompeii in the study of certain fascinating problems connected with the topographical and structural history of that city and of Herculaneum. Naturally a good many other questions then suggested themselves which lay outside the field of my special inquiries. Certain of these to me subsidiary matters now appear possibly to have had some light thrown upon them by phaenomena reported by careful scientific observers as exhibited in the two most spectacular explosive eruptions of volcanoes in recent years, those of Mont Pelée (Martinique), in 1902, and of Mount Katmai (Alaska), in 1912.

During the great eruption of Vesuvius in 79, the city of Herculaneum was overwhelmed by a tremendous river of liquid mud, which appears to have penetrated and filled every nook and cranny of the place, and accumulated to a depth of sixty to seventy feet. In the course of centuries this mud has hardened into a sort of tufa. The almost, if not quite, unanimous opinion of vulcanists has been that in volcanic eruptions (mud-geysers lie outside the question) no streams of mud are poured out from the interior of the earth, but they are formed externally by the downpour of accompanying torrential rains mixing with the lighter ash-ejecta from the craters. In such fashion have been explained the origin of the mud-flow that buried Herculaneum, and also certain less prodigious streams that coursed down the flanks of Mont Pelée in 1902. I had earlier found it difficult to conceive that *light* ejecta could have been lying at the moment on the appropriate slope of Vesuvius, and on the doomed city, in sufficient quantity to account for the magnitude and substantially uniform constitution of the rocky blanket that covers Herculaneum. But I bowed, as I am prepared to do still, to the wisdom of the scientists. When the eruption of Pelée occurred, and the reports upon it of the scientific investigators from various countries were accessible for study, these seemed at least to leave the

belief tenable that streams of mud had been poured out from certain vents in the mountain, and had not been in every case formed on the surface. I have now, after the lapse of fifteen years, read again certain of these reports, and venture to retain the same opinion. In the instance of Katmai there is more convincing testimony. Professor Robert F. Griggs, who has studied that volcano in repeated expeditions, is decidedly of the conviction, and exhibits cogent reasons for it, that a vent in the flank of Katmai, at the time of the great eruption of 1912, poured out an immense volume of ready-mixed mud from the bowels of the earth. This congealed torrent lies now in its bed to the depth in places of perhaps a hundred feet. There is some ground for raising the question again whether Herculaneum may not after all have been buried by a flood from a similar internal source.

Katmai provides us with yet another item of interest in the same connection. From the depths of Herculaneum have been rescued several scores of papyrus-rolls. These are in curious condition. Their external form is substantially unimpaired. The rolls have not been reduced to ashes, but their tissues have been completely carbonized. This condition has been explained as due to "slow chemical changes taking place in the course of centuries, such as have made over vegetable matter into coal." I hardly need point out that the time that has elapsed since the carboniferous age (to say nothing of other discordant elements in the comparison) is perceptibly greater than even the centuries that separate us from the destruction of Herculaneum. And I am informed that papyri buried in the sand-heaps of Egypt (through which oxygen might penetrate much more readily than through the rock-covering of Herculaneum), even those exhumed from the lower levels, where they have been ruined by the moisture that has mounted to them from the Nile, are by no means in the same condition as the Herculanean rolls. Of what character were these alleged "slow chemical changes"? Experts in chemistry, to whom I have referred the question, have not been able to provide a solution. Now comes in a suggestion from Katmai. Professor Griggs informs me (and exhibits a photograph to substantiate his statement) that a subsequent stream of water has eroded the aforesaid mud-flow, and has exposed trunks of trees that had been buried alive by the mud-torrent. These trunks retain their living shape and markings, but are at least superficially, if not throughout, carbonized. They have the

aspect of charcoal, as have the Herculanean rolls. Is it not possible, then, that the carbonized condition of the papyri was also due to no slow chemical process, but to the similar immediate effect of contact with volcanic mud raised to a very high temperature by contained superheated steam?

The late August Mau was a very decided opponent of the notion that the destruction of Pompeii was attended by widespread conflagration of its buildings. So briefly definite was his expression of dissent that I never ventured (much to my present regret) really to discuss the matter with him. He was of the opinion that there were indeed a very few fires, but these confined to very limited areas. He conceded that all, or substantially all, the wood preserved is in a charred condition, but confidently attributed this state to the old "slow chemical action," citing the (to me palpably unconvincing) example of the formation of coal. These beliefs he has expressed also in his books. If I had remarked that wood exhumed from ancient buildings elsewhere, that had not been subjected to fire, did not have the charred appearance of these Pompeian fragments, I conjecture his answer would have been the equally unconvincing one, that the chemical constitution of the enveloping volcanic ejecta in this case may be responsible for the difference. He also accounted on the same theory of slow chemical action for the not infrequent change of the yellow (ochre) wall-coloring to red, which sufficient heat would also have produced immediately, as in some cases in St. Pierre. My observation may have been at fault, but in watching daily the excavations in progress at Pompeii, and in inspecting the dump-heaps, recent and old, it appeared to me that much less trace of wood was in evidence than might reasonably have been expected from the structure even of ancient roofs of dwelling-houses; this, of course, on the theory that practically no wood had been destroyed by conflagrations, or had slowly rotted away.

I had also been struck by the attitudes of the Pompeian victims of Vesuvius, as shown by the casts of the cavities left by their bodies. It had generally been thought that at least those unfortunates who were out-of-doors in the city had stumbled on through the fallen and perhaps still falling ejecta in the attempt to escape, until, overcome with fatigue, they had collapsed, and been smothered by the ashes. On the other hand, their postures more frequently suggested to me the fall of persons struck down by some sudden blow. Yet the fallen ash in general

contains no masses capable of producing such an effect. I was unable to procure satisfactory evidence of the direction in which the bodies originally lay with reference to Vesuvius.

Upon the early reports of the terrific fiery blast from Pelée which brought almost instantaneous death to twenty thousand or more inhabitants of St. Pierre, I began to wonder whether it were not possible that some such blast as this had struck Pompeii. The position of the surviving ridge (Monte Somma) of the ancient peak of Vesuvius might indicate that, if any part of the boundary-wall of the mountain-top was blown away by the eruption, it must have been that on the southern side. This would leave a breach through which, reflected back from the Monte Somma cliffs, a destructive tornado might be directed straight against Pompeii. Such phaenomena were apparently unchronicled before the fate of St. Pierre, but I know no good reason for supposing that they had never before occurred. They were observed repeatedly in Martinique in 1902, and there is fair evidence that the contemporary eruption of the Soufrière in St. Vincent furnished additional examples, though happily of less devastating effect. I do not suppose they differed essentially from outbursts that take place in all explosive volcanic eruptions of considerable magnitude. But fortunately in most cases the cannon that fires the charge is aimed upward; in Martinique its fatal mouth was directed more horizontally.

The first blast at St. Pierre set in a sudden blaze the buildings of the city and even ships that lay in the harbor, and struck down into shapeless ruin walls that barred its way. A similar phaenomenon at Pompeii would account for the destruction of roofs and upper stories of dwellings, and for extensive conflagrations that consumed much woodwork, and left the remaining fragments charred.

When the book of Angelo Heilprin appeared (*Mont Pelée and the Tragedy of Martinique*, Lippincott, 1903), I found that he also had been struck by the possibility of identical elements in the fates of Pompeii and of St. Pierre. He appeared to be more certain than I was then, or am now, that Pompeii in fact suffered from a fiery blast like that which desolated the modern city. Yet some of his details about Pompeii were hardly accurate. The only one that I will mention here is concerned with the casts of the Pompeian victims. He observed properly that these casts (I think he had not seen all that have been made) exhibit atti-

tudes remarkably like those of corpses found along the streets of St. Pierre (p. 137). He also, however, called attention to another parallelism that really does not exist. In the St. Pierre case a considerable number of the persons struck down were also stripped of their clothing, apparently by the mechanical violence of the blast. Mr. Heilprin thought the Pompeian casts showed similar nude bodies, and for a similar reason. I do not so interpret the evidence of the casts. The victims were apparently in their indoor dress, but Mr. Heilprin seems to have had in mind the elaborate array of voluminous togas and pallas, taking his idea from Roman portrait statues in what we may call full-dress. Nor can I concede the accuracy of the (of course quite inconsistent) imaginative statement, rather quoted than made by him (p. 126), that "many of the bodies unearthed in the course of modern excavation were found in attitudes of action or motion of full composure, and of seeming indifference to impending danger."¹

Up to the time of the Pelée eruption I had been disposed to wonder whether the Pompeian victims who looked as though they had been suddenly struck down could have been killed by some deadly and swift-acting gas, like chlorine. The attendant slaves who apparently reported to the younger Pliny the circumstances of the death of their master, his uncle, mentioned a smell of sulphur in the air, preceding the approach of *flammae*. Sulphur-gases of various constitution are ordinary, if not invariable, companions of volcanic eruptions and other allied phenomena, and I am inclined to think that these terrified slaves would have been likely to attribute to burning sulphur any unknown and pungent odor perceived by them at the moment. It hardly seems safe to assume that these sulphurous exhalations killed Pliny at Stabiae, though his chronic difficulty about breathing may have been aggravated by them. But if they were distinctly perceptible at Stabiae, is it not possible that in a place so much nearer the source of the eruption as Pompeii, they might have become suddenly present in the atmosphere to an asphyxiating extent, even

¹ Mr. Heilprin also remarked upon the interesting fact that vessels of glass and clay from the ruins of Pompeii often show the same sort of deformation that was observed in similar vessels from St. Pierre, where the deformation could be accounted for only as due to the terrific heat to which they had been exposed; see also Plates XXI and XXII in his supplementary work, *The Tower of Pelée*, 1904.

if there was no such superheated tornado as was belched forth upon St. Pierre by Pelée? The observed high winds were in the direction from Vesuvius to Pompeii.

The testimony of the investigators appears to have been (I may have overlooked some more recent utterances) that no traces of chlorine were found in either the Martinique or the St. Vincent eruptions, except that Mr. Heilprin (p. 311n.) discovered "crusts or patches of greenish-yellow iron-chlorid" on some ejected boulders or bombs near Pel'ée. But chlorine and hydrochloric acid are usually found in products of volcanic eruptions, and it has been reported, whether correctly or not I cannot say, that articles of silver exhumed in the neighborhood of Pompeii (the "treasure of Boscoreale" is an illustrious example) were found to be coated with a chloride of silver. This condition also, like the carbonization of papyrus and wood, has been attributed to that same mysterious "slow chemical action." It might, indeed, have been thus produced, if the surrounding ejecta were impregnated with chlorine-products, or such gases have been slowly seeping upward through the earth from the volcano. In all probability gases of this constitution were thrown out by Vesuvius in its great eruption. Is it possible that they might have caused, or have effectively helped to cause, the destruction of life in Pompeii? If sea-water had gained access to the volcano through a fissure opened by the immediately preceding earthquakes, could its chlorides, through dissociation by action of the immense heat, have furnished enough gases to produce this effect?

I have thus, in my ignorance and assurance, ventured to suggest the reopening of some questions considered closed. They need the attention of specialists; the archaeologist cannot hope to settle them without the technical help of the vulcanist and chemist, nor the latter, perhaps, by themselves alone.

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UNPUBLISHED DOCUMENTS RELATING TO THE
WORK OF BENEDETTO AND SANTI BUG-
LIONI FOR BADIA TEDALDA

BENEDETTO BUGLIONI is mentioned by Vasari as the author of many works in glazed terra-cotta both in and outside of Florence. Several documents concerning works by him have been published in recent years, but the monuments themselves are so heterogeneous that it has been difficult to isolate and define his style. During my Robbia studies I have set aside about a hundred monuments, which I have provisionally assigned to Benedetto Buglioni and his assistant Santi Buglioni. These I hope some day to publish. Among them are several monuments at Badia Tedalda, a village with an abbey situated between Borgo San Sepolcro and San Marino. Well I remember some twenty-five years ago being driven to this remote spot in eager expectation, since Cavallucci and Molinier had led me to look for the handiwork of Luca and of Andrea della Robbia. I learned later to curb such expectations, since all works in glazed terra-cotta, especially those in remote places, are generally attributed to the leading masters of the school.

In examining the archives of S. Maria Nuova my friend, Mr. Rufus G. Mather, recently discovered the documents, which I am publishing now in connection with some unpublished photographs.

I. Altar-piece of the Madonna Enthroned with Saints.

This relief (Fig. 1) shows the Madonna enthroned holding on her lap the nude, standing Child. To the left are S. Lionardo, with yoke and book, patronymic Saint of Messer Lionardo Buonafede, donor of the relief, and S. Michele, with sword and scales, to whom the abbey was dedicated; to the right S. Girolamo with a stone against his heart and a book, at his feet a lion, a favorite Saint in lonely places, and S. Benedetto representing the *Fratres Cassinenses*, or Benedictine monks from Monte Cassino, who were the first incumbents of the abbey church. The scene occurs in Paradise indicated by the palm and other trees visible above the wall against which the Saints are standing. In type the Madonna differs little from the Madonna of the J. S. Morgan altar-piece



FIGURE 1.—MADONNA AND SAINTS: BADIA TEDALDA.

(1502),¹ which may now be attributed definitely to Benedetto Buglioni. The pilasters, capitals, and architraves are alike in both altar-pieces. The cherub frieze, in which the cherubs are separated by yellow rays of light, occurs not infrequently on altar-pieces by Benedetto Buglioni. The predella shows at

¹ *Della Robbias in America*, fig. 67.

either end the arms of Lionardo Buonafede; *or*, a bull passant *gules* on a mount of six summits *vert*. Above the shield is a Bishop's mitre. Separated by pilasters with slender vases are scenes of (1) a miracle of S. Lionardo, (2) Christ in the Sepulchre supported by the Virgin and S. Giovanni, and (3) S. Girolamo in the desert.

DOCUMENTS

1. YHS MDXVI°

"Badia di santo angelo tedaldj dicontra
de dare

1517

E adj xxv digiugno f quindiej d° in° la(rghi)
faccianbuoni a m° benedetto digiovan(n)
buglione schultore di terra chotta posto
debbj avere dj xij al(li)b(r)o pig^a e fittj C
a c 5 e f.iii p° (posto) m(esser) L^{do} n(ost)ro mag^a
avere in q° c— avutj dalluj dicōtantj
e qualj dj (ducatj) 15 sono p(er) j^a tavola
daltare fatta fare m(esser) L^{do} detto p(er)
lasop(r)adetta badia che fu invetriata
dentrovj la n(ost)ra don(n)a col bambino et
s(an)c(t)o B^{tto} (Benedetto) sangirolamo s(an)c(t)o L^{do}
et samichele cō predella pilastrj
architrave fregio et chornicie—f 15-1—"

[*Archiv. dell' Arcispedale di Santa Maria Nuova, Libro Giallo, F. 1516-1518, c. 78*]

2. + yhs MDXVIJ

I(n) q^{to} 291

"Benedetto digiovannj di berenarddo
dantonio schultore"

.
.
.

+ yhs MDXVIJ

I(n) q^{to} 291

"Benedetto digiovannj schultore
dicontra de avere addi xxv
dj giugno 1517 f dodiej doro
glifacianobuonj i(n) soma dj
fxv doro comapare al(li)b(r)o
giallo s(egna)to f c 78 jnchonto
dellabadia di santo agniola
tedalddj p(er) una tavola
di n(ost)ra don(n)a com piu
fiure (figure) drenttovj
tutti di terra chotta
eddachorddo con m(esser)
L^{do} n(ost)ro magiore—f 12-1—"

.
.

[*Archiv. idem, Libro Fitti e Livelli, C. 1517-1525, c. 5 e V*]



FIGURE 2.—MADONNA DELLA CINTOLA: BADIA TEDALDA.

3.

“YHS MDXVIJ°

M(esser) Lionardo di Giovanni Buonafe nr° magg°
de avere

.
.

E ad(i)detto (xxv digiugno) l otto p(iccio)li anzi f tre
la(rghi) d° sono che tantj ne pago piu
tenpo fa am° benedetto di gⁱ schultore
p(er) cōto duna tavola daltare di terra
chotta fatta p(er) la badia di santagniole

come apare a suo cōta in q° c78 in soma
di f xv d°— f 3-1—”

[Archiv. idem. Libro Giallo, F. 1516-1518, c. CCXLVIII]

The first document, on the books of the Hospital of Santa Maria Nuova, shows that the Badia di Sant' Angelo (S. Michele) at Badia Tedalda agreed to pay to Benedetto di Giovanni di Bernardo d'Antonio Buglioni on the 25th of June, 1517, fifteen golden ducats or florins, of which he had already received three from Messer Lionardo di Giovanni Buonafede, for a glazed terra-cotta

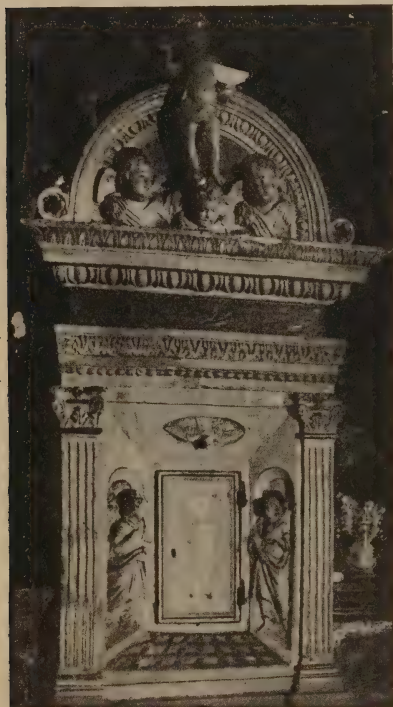


FIGURE 3.—CIBORIO: BADIA TEDALDA.

altar-piece representing the Madonna and Child with SS. Benedetto, Girolamo, Lionardo, and Michele, including a predella, pilasters, architrave, frieze, and cornice. The second shows that Benedetto Buglioni received on this account twelve golden florins, and the third that Buonafede was paid back the three florins which he had advanced to Benedetto Buglioni for this altar-piece.

II. *The Madonna della Cintola and a Ciborio.*

Around headed altar-piece (Fig. 2). Here is represented the Virgin seated on clouds, within a *mandorla* supported by six angels, and lowering her girdle to S. Tommaso, who clad in maroon with mantle of blue is on his knees ready to receive it in front of her sarcophagus filled with lilies.

The relief is surrounded by a frieze composed of cherub heads separated from each other by garish clouds. The outer pilasters and entablature are made of plaster.

The Ciborio or tabernacle for the sacred host (Fig. 3) is of a type not uncommon with its grilled floor, the *sportello* flanked by

two angels in niches, and a dove overhead. The tympanum shows the Infant Christ blessing and three heads of cherubs.

DOCUMENT

4 { "E de dare adi xv dimagio
1521 f sej s x li(larghi) doro
* { inoro autj p(er) noj e degluominj
delabadia tedaldj e qualj
gliebe santi di michele
ischultore—f 6 l 3 s x
{ E de dare adi xv deto
f tre li doro inoro
porto santi dimichel
chele (sic) chontanti
p(er) resto di lavori
auti— f 3 l—s—"
.
.
.

{ E de avere adi xv di
magio 1521 f òto li
doro inoro sono p(er) una
Tavola dasùzione di n(ostra)
don(n)a di terra chōta
* { auta daluj p(er) mandarla
alabadia tedaldj p(er)
chonto di m(esser) nostro
magiore—f 8 l—
{ E de avere adi dēto f
uno e mezzo li doro
inoro sono p(er) la valuta
duntabernacholo da
chorpo isdominj auto
daluj p(er) deta badia—
f 1 l 3—s 10—"

[Arch. dell' Arcispedale di Santa Maria Nuova, Libro Fitti e Livelli, C. 1517-1525, c. 5 e V]

The altar-piece of the Assumption and the Corpus Domini tabernacle were paid for on the same day, May 15, 1521, at a combined cost of nine florins, three lire, ten soldi. It may be



FIGURE 4.—THE ANNUNCIATION: BADIA TEDALDA.

noted that payments are made to Santi di Michele (Santi Buglioni). According to Milanese, Benedetto Buglioni died March 7, 1521. Messer Lionardo di Giovanni Buonafede, the Maggiore or Administrator of S. Maria Nuova, mentioned above, remains the Florentine representative of the Badia.

III. *S. Gabriele and the Annunziata.*

On the wall to the left of the principal altar is a figure of S. Gabriele (arm and wing damaged) holding a branch of lilies (Fig. 4); to the right is the Annunziata with blue mantle over a maroon robe. The Angel is evidently by the same hand as S. Tommaso in the Assumption relief and the Annunziata is a counterpart of the Virgin in the lunette of the altar-piece next to be described. I am inclined to believe therefore that these Annunciation figures cost the two florins paid to Santi Buglioni on May 23, 1522.

DOCUMENT

5. "E addj 23 dj maggio 1522
f dua li in° p(er) luj da
Santi di michele schultore a
entrata s^{to} h 48—f 2—1—"

[Arch. dell' Arcispedale di Santa Maria Nuova, *Libro Fitti e Livelli*, C. 1517-1525, c. 5 e V]

IV. *Altar-piece of S. Sebastiano and Saints.*

This altar-piece (Fig. 5) has undergone serious changes. Its original frame has gone, except a few cherubs from the frieze, now a part of the large plaster framework. The lunette now divides the central relief into an upper and lower half. The upper half represents the Annunciation, S. Gabriele with lily branch striding toward the Virgin, beckoning to her with his right hand. A large vase of lilies separates him from the Virgin who is seated before a lectern reading. The Holy Dove radiating light is overhead.

The lower relief represents in the centre S. Sebastiano nude, except for a loin cloth, his hands tied behind his back, while angels hold a martyr's palm and a crown near his head. To the left is S. Giuliano, clad in short tunic and mantle, with sword and martyr's palm. A dog is at his feet. To the right is S. Antonio Abate, heavily draped, holding a crutch and a book. A black pig is at his feet.

This is not the principal or high altar, although it may have



FIGURE 5.—S. SEBASTIANO AND OTHER SAINTS: BADIA TEDALDA.

been so designed by Santi Buglioni who was paid ten florins for it on the twentieth of September 1522.

DOCUMENTS

6. "E addi xx dj settenbre 1522
f diecj li d° in° chontantj

seglj fanno buonj p(er) una
 tavola fatta p(er) unaltare
 maggiore della badja
 Santangjolo tedaldj et p(er)
 luj da santi dj michele
 Schultore chome disse
 m(esser) L^{do} n^o maggiore
 debjtore allibro V(er)de h c. 32—f. 10—l—”¹

[Arch. dell' Arcispedale di Santa Maria Nuova, Libro Fitti e Livelli, C. 1517-
 1525, c. 5 e V]

7. “+ YHS MDXXJ

Lionardo di giovannj buonafe nostro magiore
 dichontro de dare

.

E adi xx diset(ten)b(r)e 1522 f diecj li doro inoro
 fatj buonj p(er) luj a isantj dimichele ischultore
 e p(er) lui a benedetto di giovannj ischultore
 posto avere a(l)lib(r)o pigone s^{to} c 5/e disono
 p(er) resto e paghamento duna tavola auta
 daluj mandata p(er) suo chonto alabadia
 tedaldj — f 10-s—”

.

.

.

[Archiv. dell' Arcispedale di Santa Maria Nuova, Libro Verde, H. 1521-1524,
 c. 32]

It may be noted that Messer Lionardo di Giovanni Buonafede is to pay ten florins for the accounts of Benedetto and Santi Buglioni. This payment was to be made on the 20th of September, 1522. If Milanese's date for the death of Benedetto Buglioni, March 7, 1521, be correct, then this payment would have been made to his estate. It is evident, however, both from the monument itself and from the document that the sculptor in this case was Santi di Michele and not Benedetto Buglioni.

ALLAN MARQUAND.

PRINCETON UNIVERSITY,
 PRINCETON, N. J.

¹ Below is the sum f. 47 l 2. 16. apparently a total received by Santi Buglioni, although not the total of the entries here recorded.

TERRACOTTA REVETMENTS FROM ETRURIA IN
THE UNIVERSITY MUSEUM, PHILADELPHIA.

THERE has been in the University Museum since 1897 a very interesting series of Etruscan architectural fragments. We have been engaged in a study of these fragments, and, as a result, one article, dealing with an openwork grill from Orvieto, has already appeared in this JOURNAL¹. The present article has for its purpose the assembling and restoration of a large collection of revetments,² while a future paper will discuss the antefixae and fragments of antefixae, perhaps the most important of all the objects.

A revetment, as its name implies, is a covering to conceal an unsightly piece of structural work. Revetments were employed by the Etruscans to cover the various members of the wooden entablature of their temples. They were nearly always, if not always, of terra-cotta, with designs in relief struck from a mould, and these reliefs were usually painted. Although terra-cotta revetments of Roman times have been discovered, it is nevertheless true that the Romans of imperial times, scorning the humble clay, generally used costly marbles for these purposes,³ and, for interiors, sometimes employed glass. Examples of such glass veneers, made to imitate serpentine, porphyry, and other marbles, can be seen in the collection in the University Museum.

Of these fragments of Etruscan revetments, enough has been found in nearly every case to make an approximately accurate restoration of each variety of slab represented. Many of the de-

¹A.J.A. XXI, 1917, pp. 296-307.

²The restorations of these revetments are reproduced from drawings by Mr. L. B. Holland.

³The Roman terracotta mural reliefs of which so many beautiful examples have been found (*e. g.*, *British Museum Cat. Terracottas*, D501-660) were employed for the interior walls of houses and cannot be called true revetments, as they seem to have been used much as we use pictures today. See *British Museum Cat.*, Introduction, p. xviii.

tails are, of course, guesswork; and where no certain information is attainable, the parts in question are drawn in light colors. In every case, what has been drawn in heavy colors has ample evidence to support it.

It will, of course, be asked, How did we determine the length and height of a slab with the small material at hand? Two methods were employed by us, both of which gave accurate results. The first was used in the cases of Nos. 1, 2, 3, 6, and 12, (PLATE VIII, I, II, III: Figs. 6, III, and 8, 1) in all of which there is more than one motive, either proven, or conjectured, on each slab. Here the slab must be of such a length as to contain an integral number of repeats of each motive; in other words, no motive must be left unfinished at the end of the slab. Thus, in No. 1, we had to find not only a space into which the palmette-lotus pattern would divide evenly, but also one in which the number of flutings above and the leaf-shaped pattern below would come out correctly, and in the case of the latter pattern, one where leaves at opposite ends would be of different colors. In this way it was generally found that there was only one practical length for any given slab of this kind.

Another, and perhaps better, indication, of the length of a slab was given by the roll that in every case separates one design from another, or is used to finish a slab with only one design. These rolls are decorated with a barber's pole ornament in red, white, and black. In every case where an end piece was obtainable, it was found that it ended in the middle of a black stripe, and that the colors from the end would run, black, white, red, white, black. Thus the length of the slab would be fixed in multiples of four stripes, or rather, three, with two half stripes of black at the ends. Usually this worked out in two units of three whole and two half stripes; sometimes, apparently, three units were used, and in one instance there is only one unit. In this paper the phrase "barber's pole unit" will be used to describe this multiple.

That explains the length. With regard to the height, it must be admitted that that is conjectural to a large extent. Here, however, the slabs with but one pattern come to their own, for their height is fixed by the height of the design. Where conjectures have been made, we can only give the estimated height. It is probable, however, that most of the slabs originally were topped by flutings.

It is unfortunate that the entering of these objects in the acquisition books of the Museum shows that the provenance is uncertain, owing to confusion in packing the objects for transport; but some attempt has been made to clear up this difficulty. In dating these objects, too, there is not much to go on; but it seems certain that the bulk of them must belong in the fifth and fourth centuries B.C.

1 (PLATE VIII, I.) Provenance, uncertain; two fragments, which join. Above is a row of flutings, separated from each other by a black arris. The top of this row is flat, and painted with stripes of black, white, and red. These flutings are alternately red and white and black and white. Below, separated from the flutings by a double roll, is a double palmette-lotus pattern, alternating, and with the lotus below the palmette, and vice versa, on a white ground. The palmettes have five petals, red between black, and are joined together, upper to lower, by alternate red and black scrolls. The petals of the lotus are red, the buds black. Below this, separated by a roll which is decorated with a variety of the barber's pole ornament not found on any other specimen, is a pattern resembling ivy-leaves, painted flat, in alternate red and black on a white ground. This may be a much conventionalized double guilloche. At the bottom we have conjectured another double roll; there seems to have been at least a single one.

This is the only revetment where the background is entirely white, and the decoration is very much in the spirit of the Attic black-figured vases. We have, therefore, assigned it to the late sixth or early fifth century B.C.

Length, 54.3 cm. (two "barber's pole units," or five repeats of the main design): height (estimated), 37.4 cm.

2 (PLATE VIII, II.) Provenance, Orvieto; two fragments. We have no definite evidence that these two pieces belong together, but the presumption is founded on the fact that both are logical developments of the patterns shown in No. 1, and come closer to it than any other patterns. Furthermore, they come out evenly, there being five flutes to every two repeats of the palmette-lotus pattern. The flutes are painted white with alternate red and black stripes, and are separated by grooves painted black; the tops are indented and painted black. The exact height of the fluting is conjectural. On the analogy of all the examples except No. 1, a single roll has been restored between

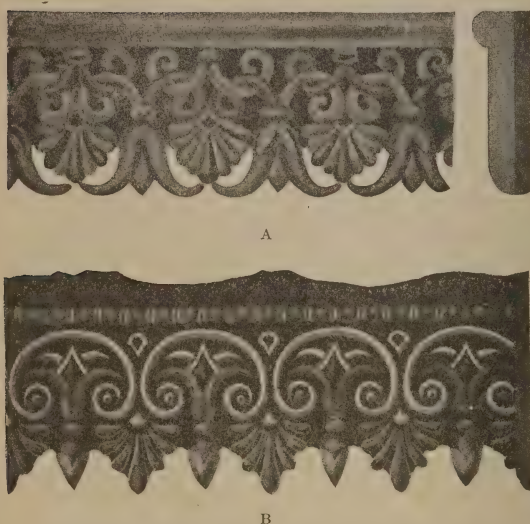


FIGURE 1.—REVETMENTS FROM CERVETRI: BERLIN.

a black ground. It is possible, of course, that the slab has been wrongly placed, and that the guilloche should be above, as in the case of No. 6 (Fig. 3, III); it has been placed below on the analogy of No. 1.

Below it, we have conjectured another single roll.

Estimated length, 52.1 cm. (three "barber's pole units," equaling six repeats of the palmette-lotus pattern, and fifteen flutings)¹; estimated height, 39.1 cm. Date, early to middle of fifth century B.C.

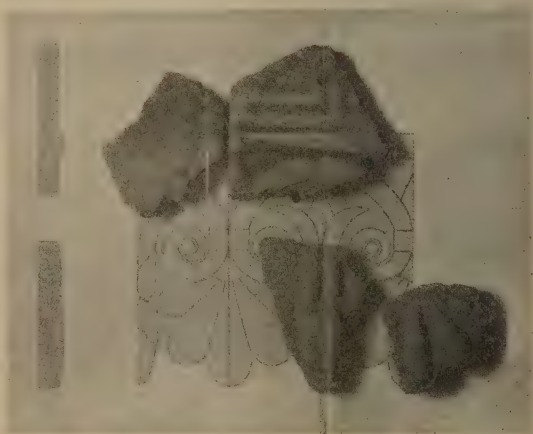


FIGURE 2.—REVETMENT FROM SEGNI.

¹ Possibly an estimated length of two "barber's pole units" would have been more correct, as this would have made the flutes at opposite ends of the slabs of different colors. The average length of the other slabs led us to choose the length here given.

the flutes and the palmette-lotus pattern. This pattern is of the same nature as on No. 1, but is fuller, less delicate, and somewhat more elaborate, the palmettes having seven petals. The design is in white on a black ground. Connected with it by a single roll, is a single guilloche in white, on

3 (PLATE VIII, III). Provenance, Orvieto; three fragments. Composed of a row of flutings, all painted red and white, and separated from each other by black grooves of somewhat greater width than in No. 2. The top is indented and painted black, as in No. 2. Separated by a single roll, with the usual barber's pole decoration, is a single palmette-lotus ornament, restored on the analogy of two similar revetments from Cervetri, now in Berlin (Fig. 1 A and B)¹, one found at Segni (Fig. 2)², and also another revetment in the University Museum (No. 7, PLATE IX, 1). This palmette-lotus design is in white on a red ground, with black between the leaves of the palmettes. This revetment probably covered a horizontal corona, whereas Nos. 1 and 2 were probably for the raking corona.

Length, 58 cm. (two barber's pole units equalling seven repeats of the palmette-lotus); height, 25.2 cm. Early fifth century B.C.

The three slabs that follow, together with Nos. 8 and 9, belong to a different class of decoration.

4 (Fig. 3, 1). Provenance, uncertain; two fragments. This is a slab with a double pattern of alternate palmettes and lotus blossoms. The palmettes have five petals, alternately red and black, with a white outer rim around each petal. The background is black. The bases of the palmettes are white, with a central spot of red. A red chevron separates the base of the lotus from the petals; a red band separates it from the wide scrolls connecting with the other lotuses; and the lotus bud is in every case red. All other parts are white. It should be noted that the scroll connects the *lotuses* and not the palmettes. This is obviously a design from the bottom of a revetment, as is proven by the scalloped edge. Although the presumption favors a roll and flutings at the top, there is no proof of their existence. The length is conjectural, but must have been of either two or three repeats of the design (three are here given).

Estimated length, 59.3 cm.; height, 29 cm. Early fifth century B.C.

5 (Fig. 3, II). Provenance, Orvieto; two fragments, which join. Here the lotus-pattern of No. 4 has disappeared, and the scrolls have developed into ribbons, completely enclosing the

¹Wiegand, *Glyptothek Ny-Carlsberg*, text, p. 25, figs. 27 and 28.

²Delbrueck, *Capitolium von Signia*, pl. V, no. 1.



FIGURE 3.—TERRACOTTA REVETMENTS FROM ETRURIA.

palmettes. These palmettes are joined by scrolls like those in Nos. 1 and 2; they have seven petals, and have an outer rim around them as in No. 4. No paint is used, although it was undoubtedly intended, which may point to this piece being part of a slab rejected for some imperfection. That this is a common pattern is proven by the presence of two other examples in this collection, Nos. 6 (Fig. 3, III) and 8 (PLATE IX, II), and another published example, of considerably later date, found at Falerii, the modern Civita Castellana, and now in the Museo Papa Giulio, Rome (Fig. 4)¹. This, again, is probably part of the bottom, and has been so restored. The almond-shaped dots in the spaces at the top and bottom are conjectural, but something of this kind must have been there. The top probably ended in a roll and fluting.

Length (three repeats), 50.3 cm.; height, 27.2 cm. Fifth century B.C.

6 (Fig. 3, III). Provenance, uncertain; three fragments, forming parts of two different slabs. There is no direct evidence for the fluting that has been restored at the top of the slab, but deductions can be drawn from



FIGURE 4.—REVETMENT FROM FALERII: ROME.

the size of the fragment above the guilloche. This is wider than a single roll would be, and points to the existence of another member above. The face of this roll is destroyed. The guilloche is single, white, with outer borders of black and a central stripe of red, on a white ground. The colors on this fragment of guilloche are, perhaps, better preserved than those on any other piece in the collection, and show the brilliance of the effect produced by this color decoration. The manner of the brush-strokes indicates that the guilloche came above the palmette pattern, rather than below, as in Nos. 1 and 2. Below the guilloche is a roll, then on this same fragment we have evidence of the dot decoration that occurs between the palmettes of the lower part.

This lower pattern is similar to that of No. 5, but has the following variations: the palmette petals have no outer rim; the connecting scrolls run across the enclosing ribbons rather than

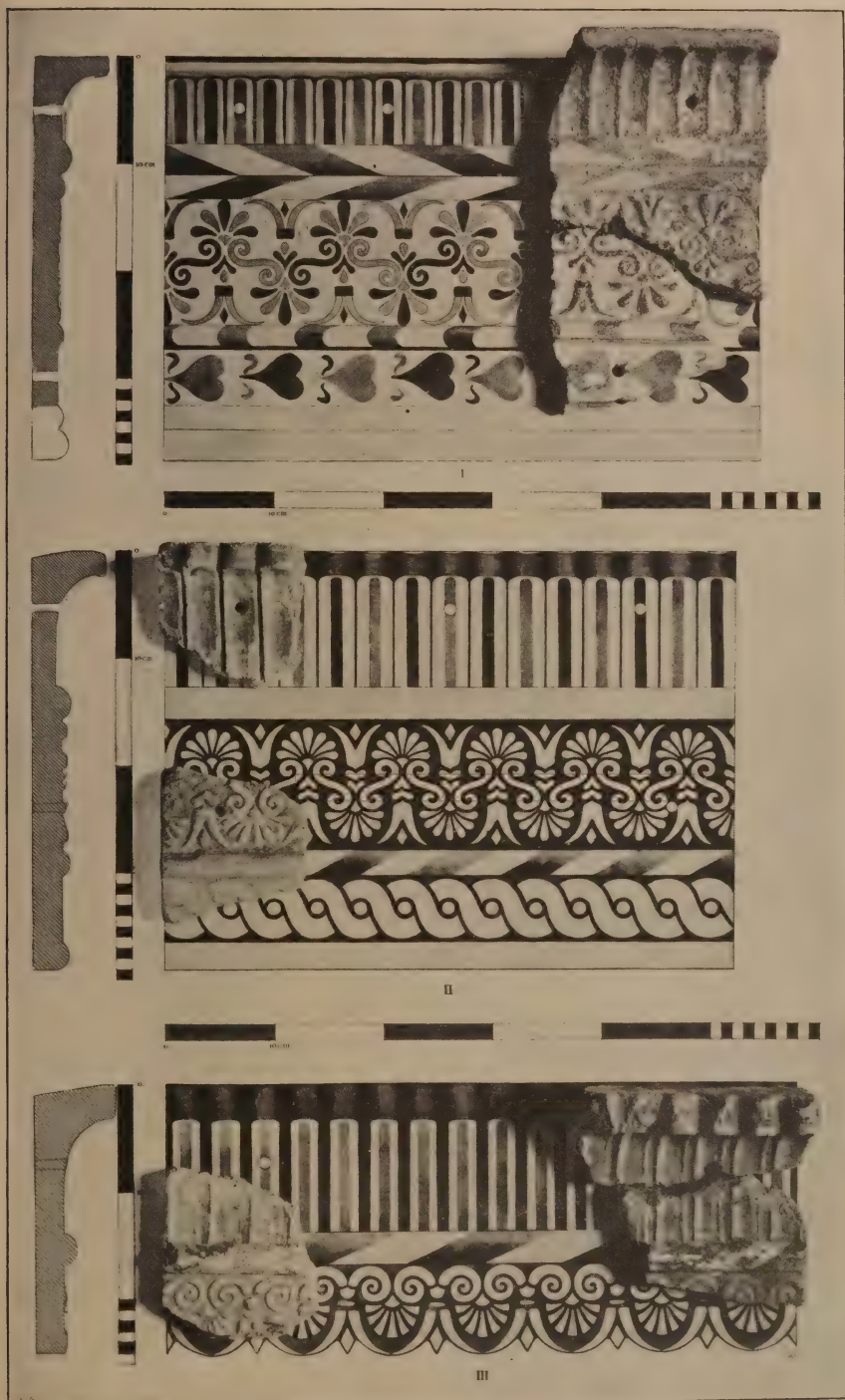
¹Published by A. Cozza, *Not. Scav.* 1888, p. 427, fig. '17 (here reproduced), and by Miss Mary Taylor and Mr. H. C. Bradshaw, *B.S.R.* VIII, 1916, pl. II.

underneath; the ribbons are true arcs of circles (they were not in No. 5) and are joined by little bands at the points of tangency. The arrangement of the colors is as follows: the palmettes have seven petals, the central petal having a black stripe on a white ground, the others alternately red and black stripes. The base of the palmette is red, with a small band of white from which the petals spring; and the background for the palmette enclosures is black. The enclosing ribbons and connecting scrolls are white. The scrolls are joined together by a red band, edged with black, while the band that joins the enclosing ribbons is white edged with black, and with a red central stripe. Red is used as a background below the base of the palmettes, between the ribbons and the scrolls, and above between the ribbons and the roll. The spots are all white, except the large central spots in the upper spaces, which have a red dot in the middle. The bottom piece is finished off, proving that this was the lowest member of the slab. The space between the lower series of palmettes was perforated, and the lower connecting band was probably red.

Length, 56.8 cm. (two "barber's pole units" equalling four palmette repeats); estimated height, 46.2 cm. Fifth century B.C.

7 (PLATE IX, 1). Provenance, uncertain; two fragments. This is a very interesting pattern. On the analogy of No. 3, a band of flutings has been restored as the upper decoration, though, as will appear shortly, there is a variety of possible restorations to choose from. Below the roll, which has the usual barber's pole ornament, there is a single palmette-lotus pattern. The petals of the palmettes are seven in each case and white, the central one being edged with black, the others alternately with red and black; a most unusual color arrangement. The base of the palmette is white, and each palmette is connected with those on either side by a heavy white scroll in high relief, the eyes being in red, on a black background. Above each palmette is a lozenge of red, edged with white. The lotus petals are also red, edged with white, as is the diamond between them, while below there is a bud of white, with a red tip. The entire background is black.

Patterns resembling this are of common occurrence, our own No. 3 (PLATE VIII, III) being an earlier example and the simplest in design of all. In that specimen, two stems, forming volutes, spring from the base of the lotus to form the base of the palmette. The next example in the development of this design, a



slab from Cervetri, now in Berlin (Fig. 1, A), shows the same arrangement, with the addition of a scroll springing from above in order to give greater depth to the pattern. The lower part of the revetment from Civita Lavinia, now in the British Museum (Fig. 5)¹, has a similar arrangement, except that the volutes, instead of springing from the base of the lotus, extend from one palmette to another in a loop, while the two stems coming from the lotus assume the form of petals, thus creating a double lotus pattern, one directly above the other. Next in the development



FIGURE 5.—REVTMENT FROM CIVITA LAVINIA: BRITISH MUSEUM.

of this design is our example (No. 7) showing the same arrangement as in the Civita Lavinia revetment, except that the lower lotus has degenerated, and become formalized, although still retaining all the essential features. In a second example from Cervetri, now in Berlin (Fig. 1, B), a still further development of the upper lotus is shown at the expense of the lower, which has degenerated out of all recognition; while in the last example to be cited, the revetment from Segni (Fig. 2), the lower lotus has become merely the bud for the upper. Thus we see the position of the lotus completely reversed in the development of this dec-

¹Walters, *Cat. Terracottas in the British Museum*, B 607; Walters, *Hist. Ancient Pottery*, I, p. 101, and pl. III; Wiegand, *l. c.* p. 17, fig. 4.

orative pattern. The latest in point of date is probably the second example in Berlin, which is in all probability a work of the third century B.C. The example in the University Museum that we are now considering belongs either in the end of the fifth century B.C., or the beginning of the fourth, with the presumption strongly favoring the later date.

In this series of specimens, No. 3 was unquestionably topped with flutings. It is impossible to tell from the drawings how either of the examples published in the "Glyptothek Ny-Carlsberg" should be restored, though both were evidently continued above the roll. The revetment from Civita Lavinia is exhibited with a palmette-lotus band above the roll, while the example from Segni obviously has a flat painted maeander pattern in this place. As has been said above, we have restored No. 7 with a row of flutings, on the analogy of No. 3.

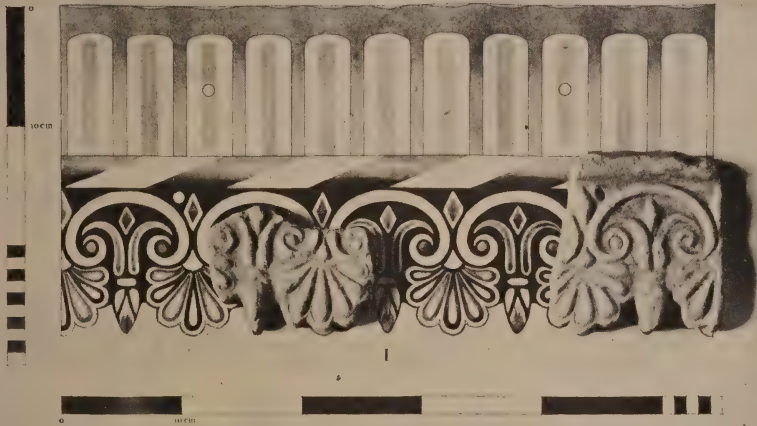
Estimated length, 51.1 cm. (two "barber's pole units" being equal to five repeats of the design); estimated height, 27.6 cm.

8 (PLATE IX, II). Provenance, Orvieto; one fragment. This continues the series of Nos. 4, 5, and 6. It differs from No. 6 only in details of modeling and painting. The differences are: (1) the ribbons enclosing the palmettes are concave, instead of flat or slightly convex; (2) the piece between the ribbons at the bottom is solid and not perforated, and has a white spot on a black ground; (3) the ribbons are connected at the points of tangency by solid bands of red; (4) the bands connecting the scrolls are also of solid red; (5) the background between the ribbons and scrolls is *red* when the palmette points *down*, and *black* when the palmette points *up*¹. The designs in the spaces at the top are conjectural.

Estimated length, 43 cm. (three repeats); height, 24.8 cm.

9 (PLATE IX, III). Provenance, Corneto-Tarquinius; one fragment. This is, in all probability, with the possible exception of No. 11, the latest of all the examples in the collection, dating certainly in the third century B.C. This is proven by the extremely conventionalized palmettes, with their petals pointing inward. This form does not appear to any great extent until the third century, and is not common then, being very rarely found outside of Greece.

¹It should be added here that the fragment at the right in No. 6 has the same disposition of color as this, proving that in the case of No. 6 we have fragments of at least two slabs.



TERRACOTTA REVETMENTS FROM ETRURIA. DRAWINGS BY L. B. HOLLAND.

In this pattern we find the latest development of the double palmette design, shown in Nos. 4, 5, 6, and 8. Here, however, the ribbons do not completely encircle the palmette, but end as tangents to the volutes of the scrolls, and leave spaces into which lotus-buds have been inserted. The volutes of the scrolls are arranged in the reverse of the normal order, falling away from the palmettes, rather than supporting them.

The disposition of colors is as follows: the palmettes, each of seven petals, are white on a black ground. The ribbons and scrolls are white and the background, except for the space within the palmette-enclosures, is red. The lotuses are white, except the central bud between the petals, which is black with a narrow vertical groove in the centre painted red, and the central groove of the lower part of the calyx, which is also black. The lotuses differ from those in the examples already described in having stamens, which is in itself a late sign. These stamens are white. Above the design is a roll with the usual barber's pole decoration.

Estimated length, 35.5 cm. (two "barber's pole units" being equal to three repeats of the design); height, 24.6 cm.

10 (Fig. 6, 1). Provenance, Orvieto; one fragment. This example is one of the later specimens, belonging to the end of the fourth century, if not later. It has the usual double palmette-lotus pattern, seen in Nos. 1 and 2, but shows it in a later stage of development. Here the scrolls assume a far greater size, and the lotus petals flare out so as to enclose almost entirely the palmettes on either side. The scrolls end in heavy spirals, and not in a simple volute, as in Nos. 1 and 2. The palmettes are of nine petals, all pointed; the restoration of knobs on stems on either side of the central petal is conjectural, but something of this kind seems to have been used to bridge the space between the central petal, and those on the sides. This is a late sign, as is the presence of stamens in the lotus-buds. The restoration, although it may seem daring at first sight, is in all essentials certain, the only debatable point being the knobs, to which reference has already been made. No color is used on this fragment, which points to one of two conclusions: either its date is very late, possibly Roman, or it was a piece rejected for some imperfection and cast aside. The latter seems to us the more probable view.

Estimated length 31.9 cm. (one repeat); height, 30.8 cm.

11 (Fig. 6, n). Provenance, Cervetri. This slab is made up of twenty small fragments, all of which join. Fragments of a

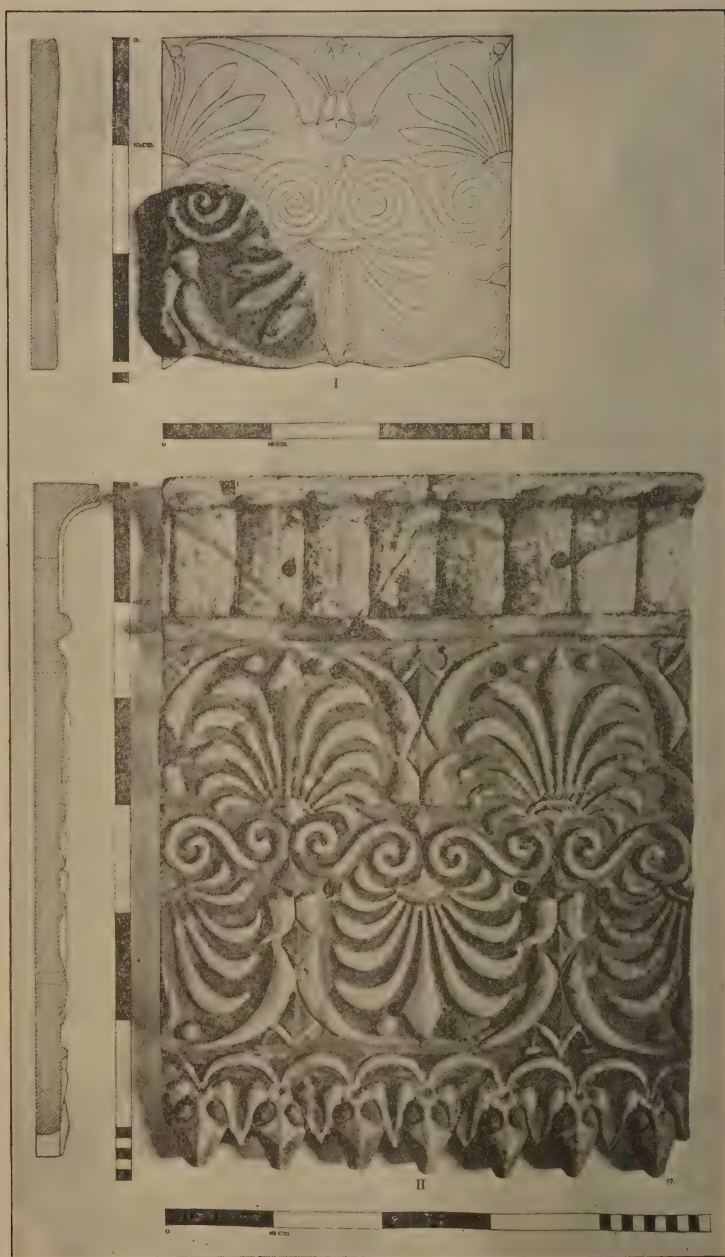


FIGURE 6.—TERRACOTTA REVETMENTS FROM ETRURIA.

slab or slabs of identical pattern from the same site are preserved in Berlin¹. Wiegand restores his fragments as a slab of three and a half repeats of the principal design. This specimen in Philadelphia proves his restoration incorrect, and shows that each slab consisted of two repeats only.

The slab is crowned by a row of flutes of convex design, alternate red and black, separated by flat wide channels of white. Above these flutes is a flat band of red. Separating the flutes from the main design is the usual roll, with the barber's pole decoration, only one unit being employed. Between the stripes in every case there is a slight raised arris, a feature not seen in other examples in the University Museum, though it appears on the revetment in the Metropolitan Museum in New York (No. 11a, Fig. 7).

The main pattern is the usual double palmette-lotus decoration of Nos. 1, 2, and 10. The palmettes have each eleven petals, which are pointed and droop slightly outward. They are white, and the background, except in the case of the last two petals, is black. The bar from which the petals spring is red, while the rest of the base is blue, a color not employed on any other specimen in the collection. The background for the base and two lower petals is red. The scrolls connecting the palmettes are white on a red ground. On either side of the central petal is a white knob. Of the lotus, the side petals, outer edge of the central petal, stamens, and base of the sepals are white, the rest of the central petal, and the bud at the base of the petals are red, while the bulb of the sepals is rendered in blue.

The slab ends in a debased pattern, which we feel to be a degeneration of the type of design shown in Nos. 3 and 7. The larger members, which represent the palmettes of the earlier patterns, are connected by crescents of white. Above these crescents, the background is red; below, black. Of these "palmettes" the centre is white, the lower edging red. On either side are knobs of red, and between these nondescript "palmettes" are two similar knobs of blue, on stems. The edge along the reveal is red.

The late date of this slab is overwhelmingly proven by the following data: first, the fact that the flutings are convex rather than concave; second, the presence of eleven leaves to a palmette, a very large allowance, and the manner in which they droop. On the vase-paintings palmettes of this sort are not

¹Wiegand, *l. c.* p. 25, fig. 29.

found except in very late examples. Third, the presence of knobs on either side of the central petal, a late sign; fourth, the presence of stamens in the lotuses, found only in late patterns like Nos. 9 and 10; fifth, the debased pattern at the bottom, which is surely a late sign; sixth, the use of blue in decoration. This last point is quite as important as all the others put together. On account of these considerations, therefore, we are inclined to date this slab in the third century B.C., a date fully justified on historical as well as artistic grounds.

Parts of this slab have been restored in plaster-of-Paris, most notably the centre of the right edge, two pieces of the roll, the tips of two flutes, and portions of numerous palmette petals.

Length, 48.2 cm.; height, 64 to 65.2 cm.

11a (Fig. 7). Wiegand, after describing the slab in Berlin identical with No. 11,¹ continues as follows: "On a conservé en outre huit fragments plus petits, dont quelques-uns ont appartenu à un motif très voisin de celui-ci, quoiqu'il en diffère cependant."

These fragments undoubtedly

belong to a slab identical with one from Cervetri, and now in the Metropolitan Museum in New York.² It differs from the slab in the University Museum in the following details: (1) the palmettes have seven petals only, and the bases have no bar; (2) the scrolls have a spiral branch, making them double-ended; (3) the lotuses have double side-petals, and no stamens; (4) there



FIGURE 7.—REVETMENT IN METROPOLITAN MUSEUM.

¹ *l. c.*, p. 24, No. 12.

² We are indebted to Miss Gisela M. A. Richter, Assistant Curator of the Department of Classical Art of that Museum, for permission to publish this revetment, and for many other courtesies.

is no separate pattern at the foot; (5) the spaces between the flutes have a sharp ridge down the centre, and end in a point.

The color on the slab is in very poor condition, but traces of a black background for the upper parts of the palmettes and a red ground in the centre exist. We could see no evidence of the use of blue.

This slab is of the same period as No. 11, and probably came from the same building. In that case, it might be a revetment for the side of the temple, while that in the University Museum was from the front.

Length, 62.2 cm.; height, 47 cm.

12 (Fig. 8, 1). Provenance, Orvieto; two fragments. The row of flutings which has been restored at the top seems to be justified by the piece of the base of a flute, that can just be made out in the fragment to the right in the photograph. Whether the colors of the flute have been properly restored is an open question. The roll is also justified by the fact of its presence on the same fragment. The principal design is different from any yet encountered in this investigation, being of diagonal addorsed



FIGURE 9.—FROM THE VASE WITH ALCAEUS AND SAPPHO.

palmettes, connected by long scrolls, ending in spirals. This restoration, although there is not much to work from, is probably correct. The idea of the original design was obtained by us after a study of such vases as the one with Alcaeus and Sappho in Munich (Fig. 9),¹ the Iliupersis calpis in Naples² and numerous other examples, on which this pattern is employed. On the analogy of these vase-paintings, we have restored the central petal with a point. A revetment with a somewhat similar pattern, showing a later development, was found at Falerii, and is now in the Museo Papa Giulio in Rome (Fig. 10).³

¹ Furtwängler-Reichhold, *Gr. Vasenm.*, pl. 64. See the text for a complete bibliography. Lau, *Griechische Vasen*, pl. 30,1 c.

² Furtwängler-Reichhold, pl. 34; A. J. A. XXII, 1918, p. 147.

³ *Not. Scav.*, 1888, p. 423, fig. 8 (here reproduced), and *B.S.R.*, VIII, 1916, pl. II.



FIGURE 8.—TERRACOTTA REVETMENTS FROM ETRURIA.

The disposition of the colors is as follows: the background is of black; the spirals, palmette petals, and the band from which they spring are of white; while red is used only for the bases of the palmettes.

This pattern does not appear on vases prior to the fine style of the Attic red-figured technique, about 450 B.C., and so it would seem that these fragments cannot date earlier than the end of the fifth century, and probably belong in the beginning of the fourth. Two repeats have been assumed as the length of the slab, which corresponds to two "barber's pole units" on the roll.

Estimated length, 58.5 cm.; estimated height, 39.3 cm.

This ends the collection of restorable revetments. With the exception of No. 12, we have seen that the designs can be divided into three distinct groups. First, there is the double palmette-lotus pattern, perhaps the most common of all, and typical of the whole period. This is found in Nos. 1, 2, 10, 11, and 11a. From this main type spring the other two groups. The second is the enclosed palmette pattern. No. 4 shows how this develops out of a variation of the normal double palmette-lotus design. The others of this class in the collection in the University Museum are Nos. 5, 6, 8, and 9. The third form of decoration is that of the single palmette and lotus, and is found on Nos. 3 and 7 and probably as the pattern on the bottom of No. 11. To these three groups, No. 12 should be added as in a fourth class, that with diagonal palmettes back to back, as Fig. 10 is a variation of this type.

We have now to consider two sets of fragments of a very unusual and interesting character. They are both very small, the larger of the two designs being only twelve, the other about six and a half centimetres high. It is obvious that they are too small to be revetments. Furthermore, in fragments of both examples, leaden sealings have been discovered by which they were held in place. It behooves us now to consider the position of these ornaments on the temple or building to which they originally belonged.



FIGURE 10.—REVETMENT FROM FALERII: ROME.

The sealings were not heavy enough to permit of their hanging from a tile or slab above. They must, therefore, have stood upright, and been sealed to a member below by the lead which has been found in them. The only places available for such ornament are (1) along the edge of the tiles on the sides, from antefix to antefix; (2) along the edge of the gable. The objection to their fitting along the sides from antefix to antefix is that in the large collection of antefixae and fragments of such objects in the University Museum and in the Metropolitan Museum in New York no trace appears to show that any members rested against them to connect them one with the other.

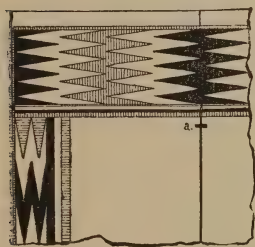


FIGURE 11.—TILE FROM
FALERII: ROME.

This being the case, the presumption strongly favors their going along the gable.

Now, in many restorations of Etruscan temples already published, the gable is finished with a cyma, in the top of which is a groove or slot, which has been usually assumed to be for the depositing of an ornament. It is impossible that the ornaments under discussion fitted into such a slot, as the bottoms are decorated, and the entire piece is meant to be seen. More-

over, the roll on the taller of these decorations is too large to fit in such a slot. Furthermore, the leaden sealings would not be necessary if such a position were the one for which they were intended. It is, therefore, certain that they rested on a flat tile, and took the place of the cyma.

A confirmation of this theory seems to be furnished by some tiles found at Falerii (Fig. 11),¹ which show a decorated underface over the edge of the gable as well as along the side eaves. A trough cyma could hardly have been set on top of these tiles. Their finish, therefore, would have to be by means of some vertical slabs sealed to them along the outer edge. For such a purpose, and to rest on such tiles as these, the crestings now to be described are eminently suitable.

13 (Fig. 8, II). Provenance uncertain; five fragments, two of which join. That we have parts of at least two slabs is proven by the fact that two of these fragments are right edge pieces. The section drawn on the left shows the holes for the lead sealings at the bottom, and, in the fragment to the left in

¹*Not. Scav.*, 1888 p. 425, fig. 11.

the plate, the lead seal appears where the terracotta is broken away. The design is very simple, being a single palmette-lotus pattern. The palmettes have five petals, red between black, on a white ground. This and No. 1 are the only cases of a white background in the entire collection. The side-petals of the lotuses are black, and flare out, so that each palmette is enclosed by the side petals of two lotuses. In the centre of the lotus is a diamond-shaped bud of white, and the background of the pattern is also white. The base of the lotus-bud is red. The palmettes and lotuses are connected by scrolls of white. The background above the scrolls is red, and is given the form of a petal; below, it is black. The design ends at the bottom in a narrow roll, with the usual barber's pole decoration. Three repeats of this decoration have been assumed, being the equivalent of four repeats of the palmette-lotus design. This ornament seems to be of about the same period as No. 1, and is perhaps from the same building. It therefore belongs in the late sixth or early fifth century B.C.

Estimated length, 48 cm.; height, 12 cm.

14 (Fig. 8, III). Provenance, Orvieto; three fragments. The section on the side shows the holes for the leaden sealings at the bottom. This design is very simple, and is a much debased version of the single palmette-lotus pattern. The palmette, however, has taken the form of a single bud, resting on two sepals, which represent the eyes of the original scrolls. Below this decoration is a row of discs.

The dispositions of the colors is as follows: the lotuses are white, except that in the central bud there is in every case a spot of red. Of the debased palmettes, the bud has in every case a red lozenge in the centre, while the sepals are red, edged with white. The discs are of white, with alternate red and black spots, the ones at the end probably having black spots. The background is black.

We have no gauge by which we can correctly determine the length of this slab. We have assumed eleven repeats of the main pattern, which is equal to twenty-two discs. This gives a length of 45.5 cm. The height can be accurately set at a maximum of 6.5 cm. As to the date, the debased pattern proves that it must be late, perhaps of the middle or end of the fourth century B.C.

These are all the fragments from which restorations can be made. We have now to discuss a group of seven fragments

which defy accurate restoration. Of these, all but No. 18 (Fig. 8, vii), the provenance of which is uncertain, come from Orvieto. All seem to be of late date, and may even belong to Roman times, with the exception of No. 16 (Fig. 8, v), which is probably of the fourth century B.C., and which is the only one to show coloration.

15 (Fig. 8, iv). Fragment from a slab of revetment, showing a late and naturalistic design of a scroll, terminating in each end in a spiral, from which spring tendrils, also ending in spirals. This is a more graceful and beautiful development of the scroll design shown in No. 11a. This piece is of late, almost Roman times. No polychrome decoration.

16 (Fig. 8, v). A palmette, of nine petals. Each petal has a red central stripe, and is surrounded by an outer ring, which is painted black. The band from which the petals spring is of black; the base is red. It has been broken at the bottom, but is otherwise complete. We cannot guess with any accuracy at its position; but it may have been part of an acroterium, or of a gable-cresting, like Nos. 13 and 14. It seems to belong in the fourth century B.C.

Height, 13 cm.; maximum width, 17.6 cm.

17 (Fig. 8, vi). This fragment is from a revetment, and bears a diagonal design of very naturalistic lotuses or lilies. It ends in a roll. There is no color, and the realism of the design points to its being of Roman workmanship.

18 (Fig. 8, vii). Two fragments from a fluting. The flutes are convex, with concave channels, and are very boldly moulded. They also seem to belong to Roman times.

19 (Fig. 8, viii). Fragment of a trough cyma. Behind the flutes, at the top, runs a fairly wide groove. This may be of the fourth or third century B.C.

20 (Fig. 8, ix). Fragment of a terra-cotta hawk's beak moulding, in design like No. 18, but of a different color of clay. Along the top runs a row of holes between four and five centimeters apart, and about four and a half centimeters deep. Probably Roman.

This ends the description of the collection of fragments of revetments and crestings in the University Museum. It has been the primary object of this paper to call the attention of students to this remarkable collection of architectural fragments

from Etruria, perhaps one of the best outside of Italy, and certainly the largest and best in the United States; while the secondary object has been to serve as an introduction to the more extended and thorough study which we hope to make at a future date.

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NOTE ON BASES IN THE FORM OF AN IONIC
CAPITAL.

IN the very attractive guide to the Greek Collections in the Metropolitan Museum is illustrated a small portrait bronze of a philosopher (No. 120) identified as Hermarchus. It stands on a base in the form of an Ionic capital about two inches square. An exactly similar capital with traces of the attachment of feet above is now in the Victoria and Albert Museum, South Kensington. The latter belonged to a collection made by the late Mr. Henry Wallas, in the main of things found in Egypt. The buds on curving stems attached to the angles of the little capital-base at New York were evidently also repeated on the London fragment. Similar buds occur on the handles of Hellenistic bronze vessels found in Egypt. The New York portrait statuette must, I think, be an Alexandrian work. Either it was one of a set (of philosophers) or replicas of the one were made.

W. R. LETHABY.

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Richard Norton

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1895-1897

ASSISTANT DIRECTOR OF THE AMERICAN SCHOOL OF
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1897-1899

DIRECTOR OF THE AMERICAN SCHOOL IN ROME
1899-1907

DIRECTOR OF THE AMERICAN EXPEDITION TO CYRENE
1910-1911

CHIEF OF THE AMERICAN VOLUNTEER MOTOR AMBULANCE CORPS
AND LATER
OF THE AMERICAN RED CROSS AMBULANCE SECTIONS IN FRANCE
1914-1917

Died, August 1, 1918

ARCHAEOLOGICAL NEWS¹

NOTES ON RECENT EXCAVATIONS AND DISCOVERIES; OTHER NEWS

WILLIAM N. BATES, *Editor*

220, St. Mark's Square, Philadelphia, Pa.

GENERAL AND MISCELLANEOUS

NECROLOGY.—Maxime Collignon.—Maxime Collignon was born at Verdun, November 9, 1849, and died at Paris, October 15, 1917. He was a member of the Académie des Inscriptions, the Société des Antiquaires, and the Conseil des Musées, and was titular professor of Greek archaeology in the Faculté des Lettres at Paris. He was a member of the École d'Athènes, 1873-1876. In 1877 he made a catalogue of the vases in the museum at Athens (completed and revised in 1902 and 1911, in collaboration with L. Couve). The course in Greek archaeology at Bordeaux was in his hands from 1877 to 1883, when he was called to Paris. Apart from articles in Rayet's *Monuments de l'Art antique*, the *Monuments Piot*, the *Gazette des Beaux-Arts*, and other periodicals, his chief works are: *Manuel d'archéologie grecque* (1881), *Mythologie figurée de la Grèce* (1883). *Histoire de la sculpture grecque* (1892, 1897), *Phidias* (1886), *Pergame* (1900), *Lysippe* (1905), *Scopas et Praxitèle* (1907), *La statuaire funéraire dans l'art grecque* (1911), and *Le Parthénon* (1914). In all of these his learning and his excellent taste are evident. His *Histoire de la sculpture grecque* and his work on the Parthenon will long be indispensable to students of Greek art. (S. REINACH, *R. Arch.* VI, 1917, pp. 455-457; portrait.)

Richard Norton.—Richard Norton, son of Charles Eliot Norton and formerly Director of the American School in Rome, died after a brief illness on August 1, 1918 at Paris, where he was serving in the Naval Intelligence Department of the United States.

He was born in Dresden on February 9, 1872, graduated from Harvard College in 1892, and spent the next three years in Europe, studying at the American School of Classical Studies at Athens and, for a short time, at the University at Munich. While at Athens he took part in the excavation of the Argive Heraeum, and contributed a chapter on Engraved Stones, Gems, and Ivories

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Professor T. A. BUENGER, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Mr. JOHN SHAPLEY, Professor A. L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after June 30, 1918.

For an explanation of the abbreviations, see pp. 99-100.

to the final publication. In 1895 he was appointed Lecturer in Classical Archaeology and the History of the Fine Arts at Bryn Mawr College. In 1897 he went to Rome as Assistant Director of the American School of Classical Studies, and in 1899 was promoted to Director, remaining in this position until 1907. During this time he visited Central Asia in 1903 as a member of the Pumpelly archaeological expedition, and the Cyrenaica in 1904. He returned to the latter region in 1909 for further exploration, and in the following year began excavations at Cyrene as leader of the expedition sent out by the Archaeological Institute of America and the Boston Museum of Fine Arts,—excavations which were brought to an unexpected end by the war between Italy and Turkey.

In addition to archaeological articles in the AMERICAN JOURNAL OF ARCHAEOLOGY, the *Journal of Hellenic Studies*, the *Encyclopaedia Britannica*, and elsewhere, Mr. Norton published *A Catalogue of the Casts in the Museum of Fine Arts in Portland, Oregon*, and *Bernini and Other Essays* (1915). As an archaeologist he possessed a wide acquaintance with the monuments, a good visual memory, keen powers of observation, and especially a fine feeling for style and high appreciation of the beauty and significance of the works he studied. These qualities, natural in one brought up in his environment, were noticeable in his lectures in the Roman museums and appear also in his latest essays.

At the outbreak of the present war he was one of the first to see the need of more abundant facilities for removing the wounded from the field of battle, and promptly organized the American Volunteer Motor Ambulance Corps, which, manned and supported by his British and American sympathizers, aided at first the British army. After about eighteen months the American portion was transferred to a French Army Corps, as Section No. 7, and somewhat later another ambulance section, No. 5, organized by Mr. H. H. Harjes of Paris, was joined to Mr. Norton's command. Both sections then came under the American Red Cross, and other sections were added until in September, 1917, there were more than a dozen sections with about 700 volunteers and 200 ambulances, all under Mr. Norton as field commander of the American Red Cross Ambulance Sections in France. During all this time Mr. Norton not only exercised the general command but gave much time and attention to the details, showing exceptional skill as an organizer as well as great personal courage and unfaltering devotion, and winning the unstinted affection and support of his helpers. With other members of the original organization he received the British "Mons" medal. He was personally "cited" by General Petain, was given the Croix de Guerre with two palms, and in April, 1917 received the Cross of the Legion d'Honneur, being the first American thus honored for services in the present war. When in the autumn of 1917 the American authorities decided that the volunteer ambulances should be incorporated in the American army, these sections formally disbanded. Mr. Norton declined a commission as Major in the American Army Ambulance Service and entered the United States Naval Intelligence Department abroad, with headquarters at Paris. All that can be said of his work there at present is that it was regarded by his superiors as of the utmost value. It is, however, for his self-sacrificing service at the front and especially for the noble qualities therein displayed that he is likely to be best remembered.—J. M. P.

SEISTAN.—A Connecting Link with the Great Wall of China.—In *C. R. Acad. Insc.* 1917, pp. 339–342, Sir A. STEIN announces that he has found in the desert south of the cultivated area of the Helmand a series of watch towers extending for 100 km. They date apparently from the early centuries of the Christian era and were built to protect the fertile part of Seistan. If a wall connected them it has been destroyed by the elements; but the towers prove that here was a connecting link between the Great Wall of China and the Roman *limes* of Syria.

EGYPT

KARNAK.—The Different Strata near the Temple of Amon.—In *Arch. Miss.* XXII, 1917, pp. 83–131 (4 pls.; 14 figs.), L. FRANCHET reports upon his examination of the different strata near the temple of Amon at Karnak in 1912 and 1913. The oldest stratum dates from the Aeneolithic or Thinite Period; then follow remains of the Early, Middle, and Late Empires, and finally Graeco-Roman remains. Vase fragments in abundance were found in all the strata and were critically examined. The black-topped vases of the earliest period he thinks were produced by standing them upside down in a dish of carbon during the firing. The intensity of the black depended upon the length of time the vase was exposed to the heat. The temperature employed in firing was below 800 degrees. Two statuettes of stone came to light during the excavations, one of a certain Si Kar hir ka in an excellent state of preservation. It represents a man of fifty or fifty-five years of age, seated, and is 62 cm. high. The second is a headless figure 30 cm. high which does not have the artistic excellence of the other. Both appear to date from the twelfth dynasty. Franchet divides the pottery of the Graeco-Roman period into five classes: 1, vases in which the clay was a coarse black paste; 2, those made of a black or gray paste with white decoration; 3, unpainted red ware; 4, vases made of a semi-fine paste; 5, vases of a fine paste, of which he enumerates six varieties.

NAPATA.—Excavations in 1917.—In the spring of 1917, Professor G. A. Reisner continued his excavations at the pyramids of the twenty-fifth and twenty-sixth Egyptian dynasties in the vicinity of Napata (see *A. J. A.* XXI, 1917, p. 342). Fifteen kings, of whom the names of only six were known before, have been identified, the order in which they reigned determined, and other historical data acquired. In the pyramid of Tirhaka more than one thousand ushabti were found, some of large size and many of fine workmanship in hard stone. Five granite stelae of the kings were also found, as well as two granite altars, an important series of canopic jars, figures and cups of blue faience, many stone vessels, two beautiful silver mirrors of which the handles are decorated with figures of gods in high relief, gold brooches, gold sceptre-sheaths delicately ornamented, the gold ring of Tirhaka, etc. These objects were made by Egyptian royal workmen, or by men trained in the same traditions and with equal skill. Many of the objects brought to light will eventually be deposited in the Museum of Fine Arts, Boston. (A. FAIRBANKS, *Museum of Fine Arts, Boston, Forty-second Annual Report for the Year 1917*, pp. 76–77.)

SUDAN.—An Inscription from Gebel Barkal.—In *Harvard African Studies*, I, 1917, pp. 197–198 (pl.), G. A. REISNER announces the discovery at Gebel Barkal of a barbaric inscription associated with the "X-group" people, written in Greek letters.

ITALY

BAONE.—Roman Tombs.—In *Not. Scav.* XIV, 1917, p. 217, G. PELLEGRINI reports the discovery of seven Roman inhumation tombs on the new road from Baone to Arqua Petrarca.

BESANO.—Roman Coins.—In *Not. Scav.* XIV, 1917, pp. 197–198, SERAFINO RICCI describes seventeen coins representing a period from the first century (Domitian) to the third (Alexander Severus). All are large bronzes, with the exception of a middle bronze of Trajan. They formed part of a hoard contained in an amphora, which was broken by the pick of the excavator and its contents in part lost. Of the eighteen coins which were recovered one was illegible and some of the others were in bad condition.

CAVARZERE.—A Roman Tomb.—A Roman cremation tomb was discovered, containing besides the usual small objects an emerald-green glass cup, 8.5 cm. high and a dove-shaped vase of blue glass, 21 cm. in length. (G. PELLEGRINI, *Not. Scav.* XIV, 1917, pp. 221–222.)

CINTO EUGANEO.—Roman Tombs.—In the district at Ponte Crosara known as Fontanafredda, ten Roman tombs were brought to light of which one was for inhumation. They contained various small objects and a dupondius of Augustus bearing the name of L. (Naevius) Surdinus, *triumvir monetalis* about 15 B.C. (G. PELLEGRINI, *Not. Scav.* XIV, 1917, pp. 215–217).

CISTERNA DI ROMA.—Remains of Ancient Buildings.—At Cisterna di Roma on the railway from Rome to Naples ruins of ancient buildings were brought to light with various small objects, two brickstamps, and what may perhaps be a *mensa ponderaria*. (G. MORETTI, *Not. Scav.* XIV, 1917, pp. 223–224.)

FOSSALTA DI PORTOGRUARO.—Roman Remains.—On the estate of Cav. Giancarlo Stucky remains of Roman dwellings and a cemetery were brought to light. Among the small objects which were found were coins of Augustus and of other emperors of the first century A.D. (G. PELLEGRINI, *Not. Scav.* XIV, 1917, pp. 220–221.)

MARTELLAGO.—Roman Coins.—In *Not. Scav.* XIV, 1917, pp. 217–220, G. PELLEGRINI reports the discovery of a hoard of Roman sesterces, or large bronzes, of which 497 were recovered and published. They extend from Domitian, or perhaps Vespasian, to Trebonianus Gallus (252–254 A.D.), and represent many of the emperors and empresses of that period.

MILAN.—Excavations at the Monastero Maggiore.—In *Not. Scav.* XIV, 1917, pp. 225–226, G. PATRONI gives the results of excavations in connection with the Roman remains at the former Monastero Maggiore. They showed, contrary to the previous belief, that the rectangular tower is mediaeval, perhaps belonging to the tenth century, while the round tower is Roman.

POMPEII.—Recent Excavations.—The continuation of the excavations in the Via dell' Abbondanza shows that the house with the Oscan inscription (*Not. Scav.* 1916, pp. 155–156) had a double fastening of a peculiar kind. In addition to the *pessuli* in the centre of the folding doors (found *in situ*) there was another *pessulus* (also *in situ*) close to the left hand door-post. The house had a projecting roof 4 m. above the ground, of which the tiles were found (four rows of 21 tiles each) and put in their places on the restored roof. The house at III, V, 1 had a projecting balcony, formed of blocks of stone held together by a

wooden framework, which has been restored. Close by was a *castellum aquae* with the lead reservoir still in place. Various small objects were found, of which the most important is a torso of a nude Venus in pseudo-alabaster. Some fragments of the little statuette (the dimensions of which are not given) were found as well as its imprint in the ashes and the small gold ornaments with which it was adorned—a necklace, bracelets, etc. Forty-five inscriptions were found, for the most part election programmes. Among them, however, was an *edictum munerum edendorum*, relating to gladiatorial shows to be given at Puteoli, the publication of which is promised later. (VITTORIO SPINAZZOLA, *Not. Scav.* XIV, 1917, pp. 247–264.)

ROME.—A New Greek Statue from the Palatine.—Commendatore Giacomo Boni has excavated on the Palatine a beautiful marble torso, 0.85 m. high, in an excellent state of preservation. It represents a youthful female figure with draperies blown back by the wind moving rapidly to the right, and is preserved from the neck to the knees. The garment worn is an ungirt chiton with diploidion, split up so as to expose the right side from the waist down. The right arm, which was raised high, appears to have held one end of a veil which passed behind the back, but whether the left hand held the other end is uncertain. There are no traces of wings. The statue belonged to the class of rapidly moving figures with clinging drapery of which the Nereids from Xanthus are familiar examples. It is apparently of Pentelic marble and an original Greek work of the end of the fifth century B.C. (*Nation*, March 28, 1918, p. 352; May 4, 1918, p. 531.)

Tombs near S. Paolo.—On the Via Ostiense beyond the Basilica of S. Paolo the construction of a new road has brought to light a number of columbaria and tombs of the Empire. They are generally well preserved, with many inscriptions and interesting structural and decorative details. The paintings show not only the usual ornamental motives of the Flavian and Antonine periods, but also more original types, including a representation of Hercules leading Proserpina (?) from the lower world. The cemetery seems to have been used in the first two centuries by families of no special prominence, but burials continued into Christian times. It is hoped that these monuments will be preserved. (*Pagine d'Arte*, VI, 1918, pp. 63–64.)

Various Discoveries.—In the Via dell' Olmata, not far from the corner of the Via di Santa Prassede, a large room was uncovered, shown by brick-stamps to belong to the end of the second century or the beginning of the third, and probably forming part of a structure represented on Tav. 23 of Lanciani's *Forma Urbis Romae*. At No. 37 Via dei Fienaroli a room was found with a handsome tessellated pavement (transferred to the Museo Nazionale), the design of which indicated that it belonged to the triclinium of a Roman house of the later years of the imperial period. On the right side of the Via Tiburtina, about 350 m. from the road and 600 m. before reaching the Casale di Settecamini, Roman remains of the second century of our era were found, apparently belonging to a *villa rustica*. Four pieces of statuary, of no great artistic value, came to light and three or four fragmentary inscriptions. (E. GATTI, *Not. Scav.* XIV, 1917, pp. 239–247.)

SOAVE.—A Roman Tomb.—In *Not. Scav.* XIV, 1917, p. 229, G. PELLEGRINI reports the discovery of a Roman tomb at Columbara di S. Lorenzo, containing a few small objects.

VERONA.—Roman Remains.—In *Not. Scav.* XIV, 1917, pp. 227-228, G. PELLEGRINI reports the discovery of an architrave block in white Verona marble, divided into three divisions as in the Ionic and Corinthian orders, and surmounted by a frieze. The latter is inscribed in large letters of the Augustan period, originally filled with bronze, with the name of a certain Cornelius Sulla. Also, not far from the Piazza Vittorio Emanuele in the street called Carlo Cattaneo (formerly Via Colomba) a subterranean gallery was found.

VO EUGANEO.—A Pre-Roman Settlement.—In *Not. Scav.* XIV, 1917, pp. 199-214, G. PELLEGRINI describes the excavation of a pre-Roman settlement on Monte Rovalora in the district of Zovon. It seems to have been permanent from the end of the Bronze Age to the fifth century B.C. The finds consisted of neolithic implements, fragments of pottery (mostly household utensils), and implements of bronze and bone.

GREAT BRITAIN

DEEPDENE.—A Heracles of the Fourth Century.—In *R. Arch.* VI, 1917, pp. 460 f., S. REINACH describes and illustrates a statue of Heracles which was at the time of his writing in the possession of the firm of Spink, in London. It was found, broken in several pieces, in one of the "sand-caves" at Deepdene, after the catalogue of the Hope collection was printed. The statue is of life size and is almost complete. The youthful Heracles stands resting his right hand on his club. The left arm, from the elbow down, is advanced. The club rests on a diminutive and poorly wrought boar's head. The head of Heracles is similar to the head from Genzano in the British Museum, which is known in several replicas (see Reinach, *Têtes idéales*, pl. 155, p. 120). The original was probably of bronze, a Greek work of the fourth century B.C. The influence of Polyclitus is evident, and there is no trace of any influence of Lysippus. The statue may be ascribed to Scopas or his school.

NORTHERN AFRICA

KHAMISSA.—A Christian Graffito.—In *C. R. Acad. Insc.* 1917, pp. 344-347, M. GSELL calls attention to two Latin inscriptions recently found in the excavations of the *Forum Novum* at Khamissa (Thubursicu Numidarum). The first is a pagan epitaph, below which is carefully engraved in two lines the words *Dominus pascit me F.* It is suggested that some man wished to make Christian the tomb of a pagan ancestor.

KSAR DJEMA-EL-DJIR.—A Marble Head.—In *B. Soc. Ant. Fr.* 1916, pp. 313-316 (fig.), A. HÉRON DE VILLEFOSSE calls attention to the marble head of a youth recently discovered in the Byzantine citadel at Ksar Djema-el-Djir, Tunis. It is 30 cm. high. The nose is broken away and there are bruises on the chin, ears, and right eye. The hair is especially striking, consisting of a mass of small detached curls. The head is evidently a portrait, but it has not yet been identified.

SÉTIF.—A Christian Inscription.—In *C. R. Acad. Insc.* 1917, pp. 185-188, P. MONCEAUX calls attention to a Christian inscription of the fourth century recently found at Sétif. It reads *Nomina marturum qui Ad Centum arbores XXXVI confessus est Justus . . .* The rest is missing. The word *nomina* is here used to designate the relics of the martyrs.

UNITED STATES

BOSTON.—Acquisitions of the Museum of Fine Arts.—In the *Forty-second Annual Report* of the Museum of Fine Arts, pp. 92–94, L. D. CASKEY announces the following acquisitions during the year 1917. 1. A limestone statue of a



FIGURE 1.—HELLENISTIC SILVER CUPS: J. P. MORGAN COLLECTION.
From *Art in America*.

man, 0.75 m. high, Greek work of the fifth century B.C. 2. The torso of a girl of the Hellenistic period, of Parian marble, 0.58 m. high. 3. A Minoan gold necklace composed of forty-six hollow beads of four different types, said to have been found in a tomb in Crete. 4. A crescent-shaped gold pendent, the ends decorated with small granulated pyramids which hold between them a

piece of plasma. Next to the pyramids at either end is a rosette, and at the top a loop decorated with a rosette. The width is 0.016 m. It is supposed to be Greek work of the fourth century B.C. 5. A gold earring of wire spirally twisted ending in a lion's head with filigree decoration on the neck. It is Greek work of the fourth or third century and measures 0.021 m. in length. There have also been loaned to the Museum five Attic red-figured vases, an Attic white lecythus, a proto-Corinthian scyphus, a Corinthian cylix, a Mycenaean jug, and a small marble head of a youth. It is announced that a catalogue of the classical sculpture prepared by the Curator is nearly ready for the press.

NEW YORK.—**A Pair of Greek Silver Cups.**—In *Art in America*, VI, 1918, pp. 171-176 (pl.), Miss G. M. A. RICHTER, publishes two silver cups belonging to Mr. J. P. Morgan, recently exhibited in the Metropolitan Museum (Fig. 1). Both are decorated in relief with representations of cranes feeding among wheat. The birds, the plants, the insects, and indeed the whole setting show Greek naturalism at its height, yet the feeling for symmetry is preserved in grouping the birds in pairs facing each other on either side of a plant. Analogous works are a pair of silver cups in the Boscoreale treasure. The Morgan cups are surely Greek and may be tentatively assigned to Alexandria. Their provenience is unknown, but in beauty and preservation they are among the best examples of the skill of the ancient silversmiths.

EARLY CHRISTIAN, BYZANTINE, MEDIAEVAL AND RENAISSANCE ART

ITALY

CASTROREALE.—**A Panel Representing S. Agatha.**—In *Rass. d'Arte*, XVII, 1917, p. 148 (pl.), E. MAUCERI publishes an interesting panel in the church of S. Agatha in Castoreale (province of Messina). In the central division is a large figure of the saint, while at the sides are small compartments with scenes from her life. The work is austere and solemn, with a suggestion of classic influence. While its author has not been identified, it is clearly the work of a Sicilian of the first half of the fifteenth century.

FERRARA.—**Alberti and the Campanile of the Ferrara Cathedral.**—In *L'Arte*, XX, 1917, pp. 351-354 (3 figs.), A. VENTURI suggests the hypothesis that Leon Battista Alberti was designer of the campanile of the cathedral of Ferrara. This campanile was begun and the first course laid in 1412, but work was taken up anew about the middle of the century when Alberti was the great man at the court of Lionello d'Este. The recorded director of the building operations, Pietro Benvenuti, is sufficiently known from other works to cancel his candidacy for the honor of this most classic of bell towers. At the very time he was at work, however, Alberti was being called upon as judge in the competition for the equestrian statue of Niccolò III, was actually designing the basis for that work, and was enjoying the highest reputation and prestige from his treatise on architecture. The natural but undocumented connection of this court favorite with the campanile is most convincing.

MESSINA.—**The Destruction of Messina.**—In *Rass. d'Arte*, XVII, 1917, pp. 202-214 (18 figs.), E. MAUCERI writes on the past and present condition of the monuments of Messina. This city, better than any other in Sicily, could until

recently boast an important and almost complete representation of its artistic history from the Norman period to the present. The monuments had, to be sure, been restored at various times, but essential features of the originals had been preserved. Now the glory of the city has been greatly diminished not only by the earthquake of 1908, but because in the plans for rebuilding the city much of what the earthquake spared has been cleared away. Fortunately, a reaction against this wholesale destruction is taking place as a result of the efforts of the *Direzione Generale delle Arti*, and some of the remains, *e.g.*, the Duomo and the Annunziata dei Catalani are being restored.

NAPLES.—An Unpublished Work by Francesco Laurana.—In *L'Arte*, XX, 1917, pp. 195–198 (5 figs.), A. VENTURI publishes the basement of a pulpit from S. Lorenzo, now in the museum of S. Martino at Naples. It takes the form of a frieze of foliage and fruit alternating with medallions containing youthful heads, between borders of scroll, bead and reel, and zig-zag motives. The plastic



FIGURE 2.—FRESCO BY LORENZO D'ALESSANDRO: SANSEVERINO.

treatment of all the forms and the flowing quality of the foliage, as well as more specific characteristics, mark the sculpture as the work of Francesco Laurana in his Neapolitan period.

ROME.—Unknown Works by Bernini.—In *L'Arte*, XX, 1917, pp. 185–194 (14 figs), A. MUÑOZ publishes several important works by Bernini hitherto unknown to art critics. A bust of Urban VIII in the Palazzo Barberini, is a remarkably intimate interpretation of the pope done by Bernini about 1623–1624. A little bronze statuette of the countess Matilda, also in the Palazzo Barberini, is undoubtedly the model executed by Bernini for the large figure that Pope Urban commissioned for the Mausoleum in the Vatican basilica. This large marble figure, not so fine as the model, shows the aid of pupils. A most interesting series of engravings illustrating the elegant edition of the poems of Urban VIII of 1631 are the work of Bernini and signed by him. They include a portrait of the pope, David and the Lion, and David and the personification of a river. The bronze group of S. Francesca with the angel, decorating the confessional of S. Francesca Romana, was finished by Bernini in 1649. The group was destroyed in 1798 and only an old engraving and the present group by Giosuè Meli give us any idea to-day of the beauty of the original work.

SANSEVERINO.—Unpublished Frescoes by Lorenzo d'Alessandro.—Valuable material for the analysis of the art of Lorenzo d'Alessandro da San-

severino is given by the series of frescoes in the church of the Maestà near Sanseverino published by A. COLASANTI in *Rass. d'Arte*, XVII, 1917, pp. 81-92 (11 figs.). The series (Fig. 2), which is painted on one wall of the church, includes two S. Sebastians, two Madonnas and a St. Anne. Comparison with other works by Lorenzo makes the attribution certain. The central scene, representing the Madonna with St. Anne, is shown by the arrangement of its frame and the stylistic treatment to be the earliest piece in the series, and is probably to be dated about 1478 since a document of that year apparently refers to the work. The other parts of the series must have been painted somewhat later, when the artist had developed a greater breadth of style. These paintings, as well as others by Lorenzo, betray the influence of Girolamo di Giovanni da Camerino in the light effects and of Lorenzo Salimbeni in the linear elegance. The artist was subject also to the double and contemporaneous influence of Niccolò Alunno and Carlo Crivelli, and was not insensible to the contact with Francesco di Gentile da Fabriano.

TREVISIO.—Tommaso da Modena.—In *L'Arte*, XX, 1917, p. 350, G. BERTONI and E. P. VICINI publish documentary proof that Tommaso da Modena was already in Treviso in 1349, when he was between 18 and 25 years of age. This supports the contention (against the opinion of J. van Schlosser and other scholars) set forth in the writers' monograph, edited in *Atti e Mem. d. R. Deputazione di Stor. Patr. per le Prov. Moden.*, Ser. V., Vol. III, 1904, pp. 141 ff., that the celebrated Tommaso, son of Barisino, was born at Modena and went while still young to Treviso.

TURIN.—An Unknown Work by Defendente de Ferrari.—In *Rass. d'Arte*, XVII, 1917, pp. 150-152 (pl.) A. FORATTI publishes a hitherto unknown painting of the Adoration of the Magi by Defendente de Ferrari, an artist whose works were at one time assigned to other masters, particularly Dürer. The example here published is privately owned in Turin and represents the artist in his maturity. Its date is probably 1525-1530.

FRANCE

PARIS.—Altar Piece from Santa Maria della Canonica.—In *Rass. d'Arte*, XVII, 1917, pp. 101-105 (fig.), L. BELTRAMI publishes a study on a painting of the Circumcision now in the Louvre (Fig. 3). Through a misunderstanding of the inscription the work has been attributed to a painter named Lampugnano and at various times it has also borne the names of Bramante and of Bramantino. The correct reading of the inscription, however, shows the work to have been executed in 1491 in Milan for Frate Giacomo Lampugnano of the church of S. Maria in Canonica. Though it is technically successful, it is the work of a second-rate Milanese artist who does not yet display a characteristic personality.

GREAT BRITAIN AND IRELAND

DUBLIN.—Pietro degli Ingannati.—In *Burl. Mag.* XXXII, 1918, pp. 30-33 (pl.), T. BORENIUS reviews what has hitherto been known of Pietro degli Ingannati and publishes a recently discovered signed painting in the possession of Mr. P. Kelly, of Dublin. The works by this artist formerly known show him as a follower of Giovanni Bellini. The newly discovered painting, representing the half length of a man, while it bears resemblance to his other

works, has much more of the style of the Venetian Cinquecento, and, but for the signature, one might be more inclined to look for its author among the adherents of the Giorgionesque manner, *e.g.*, Bernardino Licinio.

LIVERPOOL.—**A Panel by Simone Martini.**—In *Burl. Mag.* XXXI, 1917, p. 211 (pl.) is reproduced the signed and dated example of Simone Martini in the Roscoe collection at Liverpool. The panel represents the subjecting of Christ to his parents and was painted in 1342 at Avignon.

LONDON.—**Early Textiles from Damietta.**—Two important textiles of about the fifth century which have just passed into the collection of the Victoria and Albert Museum are described by A. F. KENDRICK in *Burl. Mag.*



FIGURE 3.—THE CIRCUMCISION FROM S. MARIA DELLA CANONICA: PARIS.

XXXII, 1918, pp. 10–15 (2 pls.). They tally so exactly with items in Gayet's catalogue of textiles from Damietta that there can be no doubt about their provenance. On one, in tapestry technique, are represented two columns above which are medallions containing heads. There is a deliberate avoidance of balance in color and ornamental detail. But this apparent lack of balance was corrected when the piece was hung with its three companion pieces, fragments of which remain. The technique of the second textile, which is decorated with plant forms, is entirely different, the ornament being worked in colored wools with needle on the finished linen web. It is by far the most important example of its class in the museum.

UNITED STATES

BOSTON.—**The Quincy Adams Shaw Collection.**—The April number of the *B. Mus. F. A.* is devoted to a description of the bequest of Quincy Adams Shaw to the Museum of Fine Arts, Boston. This falls into two parts: paintings, pastels, and etchings by Jean Francois Millet, and sculptures of the Italian Renaissance. The latter group consists of fifteen reliefs and four busts; they date from

the fifteenth to the seventeenth century. A list follows: marble panel relief of Madonna and Child in Clouds attended by Cherubs and Angels, ascribed to Donatello; limestone lunette relief of Madonna and Child with an Angel and St. John, by Bartolommeo Bellano, signed and dated 1461; unglazed terracotta



FIGURE 4.—MADONNA AND CHILD: BOSTON.

relief of Madonna and Child with Two Angels, attributed to Bartolommeo Bellano; glazed terracotta relief of Madonna and Child in a Niche, ascribed to Luca della Robbia (Fig. 4); glazed terracotta relief of Madonna and Child with Lilies and Adoring Angels, from the Atelier of Luca della Robbia; glazed terracotta relief of Madonna and St. Joseph and Angels, with the Ox and the Ass, adoring the Child, from the Atelier of Luca della Robbia; glazed terracotta relief of Madonna and Child with Cherubs, from the Atelier of Andrea della Robbia; unglazed terracotta bust of St. John as a Boy, ascribed to Antonio Rossellino; marble relief of Madonna Adoring the Child, with an attendant Angel, attributed to Verrocchio's pupil, Francesco di Simone da Fiesole; unglazed terracotta portrait bust of Lorenzo de' Medici as a Youth, attributed to Verrocchio (Fig. 5); marble relief of Madonna Suckling the Child, in a chair with reliefs of Angels, after Matteo Civitali; marble bust of a Youth, in the style of Mino da Fiesole; marble relief portrait of a Roman Emperor, labeled Mino da Fiesole (?); limestone relief fragment showing an Angel bearing a Palm, Florentine of the late fifteenth century; marble relief of Madonna and Child, Paduan of the late fifteenth century; old marble copy of a Console by Francesco di Simone in the Museo Nazionale, Florence; stone relief of Madonna and Child, a variant of one in the Louvre attributed to Andrea di Francesco Guardi; marble ideal bust of Christ, seventeenth century Italian. (*B. Mus. F. A.* XVI, 1918, pp. 11-27; 21 figs.)

A Painting in the Style of Velasquez.—A painting, the *Almsgiver*, brought to our country from Spain in 1847 and now in the possession of Mr. D. J. Connah of Boston is published by R. POLAND in *Art in America*, VI, 1918, pp. 102-108 (pl.). The subject is an old beggar receiving a gratuity from a well-dressed youth. While there is some resemblance to Ribera in the work, it exhibits more of the style of Velasquez about 1620, when he was producing such works

as the Aquador and the Breakfast. Whether the Almsgiver is by Velasquez himself or by a close follower or imitator is uncertain.

CHICAGO.—Purchase by Art Institute.—The *Bulletin of the Art Institute of Chicago*, XII, 1918, p. 47 (fig.), announces the purchase of a painting, entitled *St. Peter*, by Nicolaas Berchem (1620–83).

GREAT NECK.—A New “Mantegna” for America.—In *Art in America*, VI, 1918, pp. 127–128 (pl.), B. BERENSON writes on Mantegna’s *Judith* (until



FIGURE 5.—LORENZO DE' MEDICI: BOSTON.

recently in the Pembroke collection) lately acquired by Mr. Carl W. Hamilton of Great Neck, New York. There is no question of the work's authenticity. It is a complete expression of Mantegna's "Roman, pagan, imperial" genius, and is probably to be dated between 1495 and 1500.

NEW YORK.—A Late Gothic Tapestry.—In *B. Metr. Mus.* XIII, 1918, pp. 46–52 (9 figs.), J. BRECK describes a tapestry signed by Jan van Room alias Jan van Brussel, who was painter to Margaret of Savoy. Rich borders divide the whole into compartments of varying shape in which are found Zacharias, Solomon, and Paul, independent as figures; and the Expulsion, Mt. Sinai, the

Visitation (?), and a combined Nativity and Crucifixion, as the cycle of subjects. In beauty of design and technical perfection the tapestry belongs to the same class as the celebrated Mazarin tapestry formerly on loan at the museum.

Gifts to the Metropolitan Museum.—A systematic summary of the many-sided generosity of the late J. Pierpont Morgan to the Metropolitan Museum is given in *B. Metr. Mus.* XIII, 1918, pp. 1–20 (28 figs.). A brief review of the newly installed Mr. and Mrs. Isaac D. Fletcher collection is also published, (*ibid.* pp. 57–65; 9 figs.).

Ecclesiastical Vestments in the Metropolitan Museum.—An account of the material available in the Metropolitan Museum for the study of ecclesiastical vestments is given by F. M. in *B. Metr. Mus.* XIII, 1918, pp. 110–117 (4 figs.).

PROVIDENCE.—**Acquisitions of the Rhode Island School of Design.**—Among recent additions the museum of the Rhode Island School of Design publishes in *Bulletin*, VI, 1918, pp. 9–12 (3 figs.), three Renaissance Italian paintings: a Venetian portrait by Marco Basaiti, a Risen Christ by Andrea Previtali, and a Madonna and Child of the School of Pinturicchio; one piece of Italian sculpture (*ibid.* pp. 14–15, fig.): a Madonna and Child, alto-relief in wood, Umbrian school, fifteenth century; an etched portrait of Jodocus de Momper by Van Dyck (*ibid.* pp. 15–16, fig.); and a Spanish Gothic wooden chest of the fifteenth century (*ibid.* pp. 4–6, fig.).

ST. LOUIS.—**A Landscape by van Goyen.**—In *Art in America*, VI, 1918, pp. 151–153 (pl.), C. A. W. VOGELER describes a painting by Jan van Goyen purchased by the City Art Museum of St. Louis in 1916. The picture is signed V G and dated 1643. The subject is the frozen river Meuse at Dortrecht. While most of the picture is sky and clouds, about fifty figures are scattered about on the ice, where a game of golf is the chief attraction. The figures are well characterized, but they are at the same time properly enveloped in light and air and subordinated to the effect of the whole, for it was as a painter of landscapes that, particularly at this period, van Goyen excelled.

A Painting by Erasmus.—What is apparently the only extant painting by the humanist, Erasmus, is now in the collection of Mr. E. A. Faust of St. Louis and is published by M. W. BROCKWELL in *Art in America*, VI, 1917, pp. 61–66 (pl.). It is a triptych representing scenes from the Crucifixion, signed and dated, "ERASMUS. P. 1501." The earliest known record of the painting is in 1850 in the sale catalogue of the collection of the Comte d'Espinoy at Versailles. The Comte traced his ancestry to Netherlandish sources, and he was also for many years a friend of Napoleon, who removed a large number of pictures from the Netherlands in 1794. Another painting of Christ on the cross, which has apparently been lost, is said to have been painted by Erasmus in 1484. The earliest mention of this work is made by Dirk Evertsz van Bleiswyck, writing in 1667. The St. Louis painting is clearly Netherlandish. It indicates the methods and style of the time of Cornelisz Engelbrechtsen and Jacob Cornelisz van Amsterdam, and bears some relationship to the painting until lately in the south aisle of the Cathedral of St. Sauveur at Bruges, assigned by Fierens-Gevaert to an unknown artist of the year 1500.

SAN FRANCISCO.—**A Gothic Hunting Tapestry.**—A Gothic tapestry from the collection of Mrs. Phoebe A. Hearst, representing a mounted hunter attacking a large bird in the midst of a fantastic jungle of trees, is published in *Art in America*, VI, 1918, pp. 187–188 (pl.) by PHYLLIS ACKERMAN. The peculi-

arity of this piece is in the heavy, somewhat coarse verdure instead of the delicate flowers which have given this class of tapestries the name of *mille fleurs aux personnages*. Similar verdure is found in a set of tapestries with French inscriptions at Rothamstead Manor, Herefordshire. Our tapestry is an exceptional piece of the late fifteenth century, probably Flemish or French.

TOLEDO.—**Acquisitions of the Toledo Museum.**—Recent additions to the Toledo museum include a Limoges enamel triptych, the central panel of which is signed “I C. LIMOGES—1562” (*i.e.*, Jean Courtois, the famous enameler), and thirty-one manuscripts of the *Oxyrhynchus papyri*. (*Museum News*, No. 31, pp. 1–5; 5 figs.)

WORCESTER.—**New Additions to the Museum.**—In the *Bulletin of the Worcester Art Museum*, VIII, 1918, pp. 67–68 (figs.), is published a terracotta half length Madonna and Child of the school of Verrocchio and probably by Francesco di Simone; it is life-size and much of the color remains. A more puzzling new acquisition is a portrait which may by its analogy with a painting in the Uffizi be tentatively identified as a portrait of Quentin Matsys by Joos van Cleve. (*Ibid.* IX, 1918, pp. 7–12; 4 figs.)

A Portable Ivory Shrine.—In *Art in America*, VI, 1918, pp. 177–186 (9 figs.), ALICE M. FREEMAN publishes a well-preserved ivory portable shrine in her possession. It is 23 cm. high, Franco-Flemish in style, and of the fourteenth century, though the exterior decoration seems later than the interior. On the outside is the coat of arms of Condé-Hainaut, flanked by a bride and bridegroom with attendant angels. Analysis of the details leads to the conclusion that the shrine was decorated for the Marriage of Marguerite of Hainaut to Prince John of Burgundy, (Jean sans Peur). It is also suggested that the portraits may be by Hubert Van Eyck.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

BRITISH COLUMBIA.—**Remarkable Stone Sculptures.**—In *Proceedings of the Nineteenth International Congress of Americanists*, 1917, pp. 31–34, HARLIN I. SMITH describes certain stone carvings found at Yale, British Columbia. These consist of turtles with bowls on their backs, human heads with bowls on top, or seated human figures with bowls in their laps. The author considers that these bowls were used in the sacrifice or ceremonial smoking of the first salmon of the season.

KENTUCKY.—**Archaeology of the Mammoth Cave and Vicinity.**—In *Am. Mus. Nat. Hist. Anthropol. Papers*, XXII, Pt. 1, 1917, pp. 1–73 (18 figs.; bibliography), N. C. NELSON tells of the finding of a few very rude flints within the Mammoth Cave, and more finished flint implements associated with shell objects in the vestibule of the cave. He gives a summary of all that is known of the archaeology of the region.

LAKE DESCHÊNES.—**Indian Village Sites.**—In the *Twenty-ninth Annual Archaeological Report* of the Ontario Provincial Museum, 1917, pp. 78–85 (map; 3 figs.), T. W. E. SOWTER describes various Indian sites discovered mainly in 1914 and 1915 near Little and Big Sand Points on the south side of Lake Deschênes, and near McCook's wharf on the opposite side of the lake.

MESA VERDE.—**The Excavation of a Prehistoric Building.**—In the *Annual Report* of the Smithsonian Institution for 1916, pp. 461–488 (15 pls.; 7 figs.), J. W. FEWKES describes his excavation, in the summer of 1916, of a prehistoric mound, one of the so-called “Mummy Lake” group in the Mesa Verde. A large building was uncovered having in its lower story forty rooms and four circular kivas or ceremonial chambers. In the middle is a kiva 32 ft. in diameter about which the other rooms are grouped. The latter are two-storied and there is some evidence for a third story. The main north wall is 113 ft. long and was formerly about 20 ft. high. The east wall is 50 ft. 6 in. and the west wall 64 ft. 6 in. long and about 10 ft. high. The stone work is poor. Many of the stones have incised figures upon them which are perhaps masons’ marks. South of the main structure is a court or dance plaza 110 ft. long and 37 ft. 6 in. wide at the east end and 34 ft. at the west end. The small kivas had vaulted roofs of logs resting on six pilasters and the same method of roofing was apparently employed in the large kiva. A certain amount of repair work was necessary in order to preserve the walls. Near the southeast corner of the building is a low mound where the dead were systematically buried, but this had been plundered in recent times. During the excavations there were brought to light many small antiquities which are practically identical with those found in cliff dwellings. The writer believes that the building was constructed by an aboriginal people in the same cultural stage as the cliff dwellers, from whom the Hopi are descended.

OHIO.—**Explorations of Mounds and Village Sites.**—In *Ohio Archaeological and Historical Society Publications*, XXVI, 1917, pp. 227–266 (pl.; 22 figs.): 305–449 (pl.; 91 figs.), W. C. MILLS describes his excavations in Scioto and Pickaway Counties, Ohio, with descriptions of the burials, teppe sites, subterranean storehouses, pottery, flint, bone awls, and shell spoons which he found, and with measurements of the skeletal material.

ONTARIO.—**Indian Sites in Victoria County.**—In the *Twenty-ninth Annual Archaeological Report* of the Ontario Provincial Museum, 1917, pp. 91–102, G. E. LAIDLAW reports seven new sites of Indian villages in Victoria County, Ontario, and gives additional information about others already known. He also gives the sites of four flint workshops and two ossuaries, and describes places where Indian antiquities have been found.

Iroquoian Sites.—In *Proceedings of the Nineteenth International Congress of Americanists*, 1917, pp. 37–42, W. J. WINTENBERG describes his finds in prehistoric Iroquoian sites in Ontario; while in *Res. and Trans. N. Y. State Arch. Assoc.*, Morgan Chapter, Rochester, 1918, Vol. 1, No. 1, pp. 5–41 (14 figs.), A. C. PARKER does the same for finds of similar character from the same region. In these articles fortified villages with the specimens obtained from them are enumerated and described.

TORONTO.—**New Acquisitions of the Ontario Provincial Museum.**—The Ontario Provincial Museum, has recently acquired five Indian clay pipes, four stone axes, a fish-knife, pottery fragments from the north shore of Lake Deschênes which appear to be Iroquoian, a gorget, a stone adze, a stone gouge, and a ring and a needle, both of bone. (*Twenty-ninth Annual Archaeological Report* of the Ontario Provincial Museum, 1917, pp. 106–114; 12 figs.)

WEST INDIES.—**Cultural Variations.**—In *Am. Anth.* XIX, 1917, pp. 214–238 (31 figs.), HERMAN K. HAEBERLIN discusses his excavations in Porto Rico,

while *ibid.* pp. 471-486 (5 pls.; 4 figs.), THEODOOR DE BOOY tells of his finds there. The noteworthy thing about both papers is their establishment of varieties of prehistoric cultures on these West Indian Islands where previous investigators had found uniformity. Previous investigators had found divergence in culture between the different islands of the Antilles and even some cultural development within a single island (Cf. J. W. Fewkes, 'Relations of Aboriginal Culture and Environment in the Lesser Antilles,' *Bul. Amer. Geog. Soc.* V, 46, September 1914, p. 662-678). About three years ago, the first real archaeological work was undertaken in Trinidad, and this disclosed a culture in general like that of other West Indian Islands but possessing slight differences, while within the island itself there was a uniformity (Cf. J. W. Fewkes, 'Prehistoric Objects from a Shell-heap at Erin Bay, Trinidad,' *Am. Anth.* XVI, 1914, pp. 200-220; 6 pls.; 10 figs.). Mr. de Booy now reports from the east coast of the island a type of pottery not known previously from the West Indies. This unusual type occurred in shell-heaps. In Porto Rico, three types of archaeological remains had previously been identified—the "ball courts," the shell-heaps, and the caves—but the investigations failed to reveal any differences in culture among them (Cf. J. W. Fewkes, 'The Aborigines of Porto Rico and Neighboring Islands,' *Twenty-fifth Annual Report*, Bureau of American Ethnology, 1907, pp. 17-220; 93 pls.; 43 figs.). Haeberlin, however, has discovered that the cultures of the "ball courts" and the caves are not the same, but differ in several important respects. These "ball courts" had stone walls, but no evidence was found that they represented dwellings.

Excavation of a New Archaeological Site in Porto Rico.—In *Proceedings of the Nineteenth International Congress of Americanists*, 1917, pp. 220-223 (7 pls.), J. ALDEN MASON describes the excavation of one of the so-called "ball courts." He finds essentially the same sort of structure as described by Haeberlin, with two parallel stone walls. In addition, the remains of wooden houses were discovered. The artifacts are not described so that Haeberlin's conclusions cannot be verified.

Porto Rican Burial Caves.—In *Proceedings of the Nineteenth International Congress of Americanists*, 1917, pp. 224-228, ROBERT T. AITKEN tells of the excavation of a burial cave in Porto Rico. As no artifacts were found, the results cannot be compared with those of Haeberlin. About twenty skeletons were uncovered. The author concludes that the prehistoric Porto Ricans practiced burial in caves, but probably did not use these places as habitations.

UNPUBLISHED DOCUMENTS RELATING TO THE CEPPO HOSPITAL AT PISTOIA

My friend, Mr. Rufus G. Mather, has recently examined the books of the Hospital of Santa Maria Nuova with reference to the sculptural decoration of one of its dependencies, the Ceppo Hospital at Pistoia. The indefatigable Milanesi had already examined these records and, both in his *Miscellanea* and in the annotations to his edition of Vasari's Lives, made records of value, but the documents themselves remain unpublished. It is important, therefore, that these documents be published in historical sequence for the light they may shed on the history of these notable decorations.

I. *The Portico.*

The Ceppo Hospital was founded in 1218, but its portico, which bears the glazed terra-cotta decorations, was not contracted for until February 24, 1512, when Francesco di Maso di Papi, a *scarpellino* from S. Martino a Mensola, was charged with providing the stone and executing the work upon the portico. With its portico the Ceppo Hospital would fall in line with S. Maria Nuova, the Innocenti, and S. Paolo, the great hospitals of Florence. The document, No. 1, which records this information is republished from Milanesi's *Miscellanea*, 32 III P c. 480.

II. *Work by Benedetto Buglioni.*

Document 2 records that Benedetto di Giovanni known as Benedetto Buglioni was to receive on January 4, 1510, a large golden florin on account of a *Nostra Donna* to be placed above the door of the Hospital. Milanesi recorded the document with insignificant errors, and Fabriczy made various modifications of Milanesi's record. The opposite side of the ledger indicates that Benedetto di Giovanni received a golden florin on the 11th of May, 1512. The date should have been 11th of May, 1510, as may be seen by a reference to Document 7.

Document 3 enters the preliminary payment of one florin to

Benedetto Buglioni, with the spelling of whose name the scribe had evident difficulty.

Document 4 defines the *Nostra Donna* above the door of the Hospital to be an *Incoronazione*, without doubt the Coronation of



FIGURE 1.—CORONATION OF THE VIRGIN BY BENEDETTO BUGLIONI: CEPPPO HOSPITAL, PISTOIA.

the Virgin still over the door of the older part of the Hospital (Fig. 1). It is further defined as *uno arco* or a lunette. For this Benedetto Buglioni was to be paid four golden florins and an additional florin for a coat-of-arms, located apparently "*inchiesa*"

or in the chapel.¹ The following document, No. 5, indicates that on the 11th of May, 1512, the Ceppo Hospital paid over to the Hospital of Santa Maria Nuova thirty-five lire (*i.e.* five florins) for the Coronation and coat-of-arms by Benedetto Buglioni recorded in Giornale D (Document 4). The Blue Book E indicates an additional obligation of two florins to be paid on March 25, 1515 to Benedetto Buglioni for a coat-of-arms, specified as the arms of the hospital. This coat-of-arms may be the one mentioned in the previous documents, but the price paid for it, two florins instead of one, indicates a larger coat-of-arms, in all probability intended for the recently erected portico. It is now there, on the short end to the right of the façade, a position, however, for which it could not have been originally designed (Fig. 2).

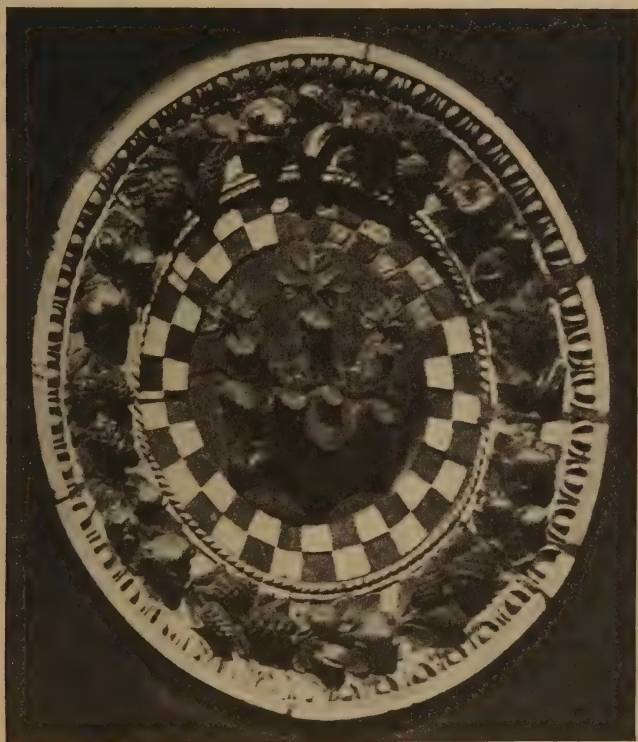


FIGURE 2.—ARMS OF THE CEPPO HOSPITAL BY BENEDETTO BUGLIONI.

¹ The manuscript is said to be obscure here. The word read as *inchiesa* may have been *inchiusa*.

It may have been located above the Coronation lunette where there is now an oval window, or above one of the doors of the portico, or possibly on one of the spandrels of the portico now occupied by the medallions by Giovanni della Robbia. It certainly does not belong to the frieze representing the Seven Acts of Mercy, with which it is at present associated.

So far as the documents are concerned, the Coronation lunette and one or two coats-of-arms are all that Benedetto Buglioni is known to have made for the Ceppo Hospital.

III. *Benedetto Buglioni's Home.*

Benedetto di Giovanni di Bernardo d'Antonio Buglioni appears to have been a man of unbusinesslike character. In 1488 he was imprisoned for debt and bailed out by his friends, in spite of his having received in 1487 forty ducats for work done for the church of S. Pietro at Perugia. The records of the Hospital of Santa Maria Nuova for 1510 show that he was two years or more in arrears for the rent of his home.

Document No. 7 shows that he had rented a house in the Via Campo Corbolini, now Via Faenza. This house, presented to the Hospital by Andrea d'Agnolo Nutini in 1458, was rented for the sum of twenty-five lire and a pair of chickens a year to Benedetto Buglioni from the 12th of September, 1489, the contract having been drawn up by Giovanni Daromena. The orders which he received from the Hospital must have been to some degree intended as an offset to this indebtedness. The rental of the house appears on the books against Benedetto's name (Document 8) as late as 1522, although Milanese records his death as having occurred on March 7, 1521. Then the rental, twenty-five lire, was paid by Messer Sano Bocconi, who however, died in September, 1524. From the 1st of November, 1525, the house and its appurtenances was rented for ten ducats and a pair of capons a year to Santi di Michele di Santi (Buglioni), the contract having been drawn up by Ser Alfonso Corsi. The payment of somewhat more than a half year's rental is recorded for Santi Buglioni and a record made of a sum total of sixty-six florins, six lire, two soldi, and sixteen and one-half pairs of chickens. Possibly Santi di Michele received this credit for work done for the Ceppo Hospital. Document 9 shows that Santi Buglioni continued the rental of the house until the end of January, 1529, when it was sold to Berto di Bernardo Calvelli, the deed having been drawn up by Ser Raffaello Baldesi.

IV. *Giovanni della Robbia's Work for the Ceppo Hospital.*

The wealthy Messer Lionardo di Giovanni Buonafede was the administrator of the Hospital of S. Maria Nuova and of its dependency the Ceppo Hospital at Pistoia. It is not surprising, therefore, when Benedetto Buglioni was dead, that Buonafede's commissions should fall in part at least to Giovanni della Robbia, who in 1518 had made for him a font and other monuments for the church at Galatrona.

Giuseppi Tigri in a Guide to Pistoia, published in 1833, asserted that the Hospital records contained payments made to Giovanni della Robbia in 1524. Milanesi, in a letter to Signor Cavallucci, published in Cavallucci and Molinier's *Les Della Robbia*, p. 142, note 1, stated that he found brief records from 1525 to 1529 concerning Giovanni della Robbia, without mention of the object paid for or the amount paid, in a book which he supposes to have been kept by the *spedalingo*, Messer Lionardo di Giovanni Buonafede.

The Ceppo documents copied by Mr. Mather, all later than the date given by Tigri, correspond to the dates given by Milanesi and are probably the documents to which he refers. They do not specify the object for which the payments were made, but they do record the amounts paid. It is strange that Milanesi should have overlooked the record of payments, in what are manifestly account books.

Document 10 records a payment of thirty-seven lire, eighteen soldi made by the Hospital of S. Maria Nuova to Giovanni della Robbia in the year 1515. This was the year in which Benedetto Buglioni was paid for a coat-of-arms for the Ceppo Hospital, so we might suppose that Giovanni began his activities for the Ceppo Hospital in that year. But there is here no reference to the Ceppo Hospital. On the other hand, reference is made to the *Libro Giallo* c. 227 (our Document 11) in which the above payment is linked with the payment made for a font in the Pieve at Galatrona, the gift of Messer Lionardo di Giovanni Buonafede. Our Documents, 10 and 11, therefore, indicate that the Galatrona monuments, which consist of a font, ciborium, a statue of S. Giovanni Battista, two candelabrum-bearing angels, statuettes of the four Evangelists, and several stemmi of Lionardo Buonafede were made by Giovanni della Robbia and his son Marco between the years 1510 and 1521.

The work of Giovanni della Robbia for the Ceppo Hospital is implied in the payments made to him according to the archives

of that Hospital. These payments began in the year 1525 and ceased in the year 1529, probably the year of his death. Documents 12, 13, 14, 19, 20, and 21 each record a payment of three lire and ten soldi, or half a golden florin. These may have been for specific objects, but the regularity of the amount and the distribution over a series of years have the appearance of a retainer or salary with a corresponding claim upon his time. Document 18 records an indebtedness of the Hospital to Giovanni on November 21, 1527 as amounting to thirty-five florins. This is evidently payment for work done. Unfortunately the object for which payment is made is not specified.

In the *Brickbuilder* for November, 1902, I held that the medallions in the spandrels of the arches of the portico, and only these medallions, showed in detail the types, conventions, and scheme of coloring used by Giovanni della Robbia during this period. That conviction remains with me still. Hence the thirty-five florins probably represent payment for the five full and four half medallions which decorate the spandrels of the portico. One of these is inscribed

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the very year when payments to Giovanni began. It may further be said that the scheme of decoration for this portico would in all probability have followed Giovanni's father's scheme for the decoration of the porticoes of the Innocenti and S. Paolo Hospitals in Florence, which were adorned only by medallions in the spandrels of the arches. In carrying out this scheme Giovanni devoted three medallions to the Virgin Mary to whom the Hospital was dedicated, and the rest to the arms of the Hospital, of the City of Pistoia, and of the Medici family to whom Buonafede as well as the Hospital were indebted for many favours.

Beside the charges of the sculptor a record is made also of the expenses of transportation. Document 15 shows that a certain Lazero, a *fattore* and *paccholle* was paid on February 4, 1526, seven florins on Giovanni della Robbia's account, and Documents 16 and 17 indicate that the same sum was paid to said Lazero on February 5, 1527. It was in 1527 that Giovanni received his thirty-five florins, so that we may infer that most if not all of the medallions were then in place. Document 16 mentions the sending of money due for taxes (four lire, seventeen soldi, six denari), a quantity of beans and other household requirements,

and at the same time one *tondo* (medallion) of Robbia ware brought from Florence by said Lazero.

The documents, therefore, are not a complete blank concerning the character of the work done by Giovanni della Robbia. One at least of his works is described as a medallion brought to the Ceppo Hospital in 1527. This was perhaps the last one of the series, and included in the payment of thirty-five florins received by Giovanni in that year. There is no hint in the documents that Giovanni had anything to do with the frieze representing the Seven Acts of Mercy which forms so striking a part of the decoration of the portico.

V. *Santi Buglioni's Work for the Ceppo Hospital.*

The documents concerning Santi Buglioni, Nos. 22-27, leave much to be desired for the solution of the problem of the frieze. However, now that the Coronation, and all the medallions are accounted for, there is nothing left but the frieze for which the payments could have been made to Santi Buglioni. The first two documents, 22 and 23, show that the administrator, Lionardo Buonafede, advanced one florin, two soldi, ten denari, through Batteo di Marco da Montespertoli who conveyed some *terra* (probably *terra-cotta*) to the *Mosche* (portico? or the atelier at Pistoia?) for the account of Santi di Michele (Buglioni), and that this sum was paid back to Lionardo Buonafede. The remaining documents, Nos. 24-27, indicate a large account with Santi di Michele amounting to more than four hundred and thirteen lire and nine soldi. This included credit for a certain amount of grain and wood, but as Santi di Michele is described as *schultore* the major part of the payment was without doubt on account of the frieze with its attendant pilasters, figures of Virtues, Griffins, etc. There is much in this frieze that can be correlated with the work of Santi Buglioni, and if we should deem it superior to what we suppose to be the measure of his capacity, we may remember that he was closely associated with Niccolò il Tribolo in the execution of the equestrian statue of Giovanni de' Medici delle Bande Nere and of the pavements for the Libreria S. Lorenzo and the Palazzo Vecchio. For the Seven Acts of Mercy possibly Tribolo furnished the design. Only six of them, however, seem to have been completed by Santi Buglioni, the seventh was executed in stucco about 1585. The charge of four hundred and thirteen lire and nine soldi was carried on the books for 1527, 1528, and

1529, and an additional small payment made in 1534. In the latter year Santi di Michele received a half florin on the 5th of September and another on the 27th of October for Giovanni Albertini, possibly for transportation.

It would appear that about this time Messer Lionardo Buonafede died, and the frieze remained for some years incomplete. In the first six Acts of Mercy Buonafede is represented as the principal figure; in the seventh another figure takes the principal place,—in all probability Bartolommeo Montechiari who was administrator of the hospital when the frieze was completed. On a tablet at the right hand corner it bears the date 1585.

VI. *Filippo Paladini's Work for the Hospital.*

Contrucci, in his *Monumento Robbiano* (a book concerning the Ceppo Hospital), Introduction, Note 16, in 1841 published the following statements as coming from the archives of the Hospital, *Libro Rosso*, *Segnato G* (error for B). The existence of the documents had been noted by Tigri in 1833. The *Libro Rosso B* where the entries were originally made is missing, but the *Entrata e Uscita*, G and H, containing some of the same items, have been examined and copied by Mr. Mather. Contrucci's record is as follows:

Adì 1 Febbraio 1584. A Maestro Filippo di Lorenzo Paladini per figure lire 21.

Adì 14 Maggio 1584. A Filippo di Lorenzo Paladini dipintore pistoiese lire 7 a conto di figure.

Adì 16 Giugno 1584. A detto Maestro Filippo a conto di figure lire 12.

Adì 11 Marzo 1586. A Maestro Filippo di Lorenzo Paladini lire 14 a conto di figure.

Adì 2 Agosto 1586. A Maestro Paladini deve avere scudi 12 M. P. si gli fanno buoni per sua fattura di figure al tempo di Bartolommeo Montechiari per finire il fregio della Loggia.

The note that Paladini was paid fourteen lire for *figure* in March, 1586, does not correspond to our Document 31, and may have been taken, as Contrucci declares, from the now lost *Libro Rosso*. But the entry for May 22, 1586, shows that Giovanni Michele, carpenter, was paid four lire for three panels for bed heads. The *figure* mentioned in the previous documents may have been Saints painted for these bed heads by Paladini the painter. Document 32 seems to prove this, as on the 2d of August, 1586, Paladini was paid eighteen lire for painting four

figure to be placed above beds which lacked them, and these *figure* were to represent S. Giovanni Battista, S. Girolamo, S. Pietro Martire, and SS. Cosmo e Damiano. If Contrucci had before him Document 32, it is clear that he intentionally falsified it by the entry "per finire il fregio della Loggia." It is possible, however, that the lost *Libro Rosso* contained an entry such as he records, in which case the last panel of the Acts of Mercy was made by Filippo di Lorenzo Paladini between February 1, 1584 and August 2, 1586, also the central figure was probably that of Bartolommeo Montechiari and the cost of the panel, so far as recorded, was fifty-four lire or twelve scudi. This panel was executed in stucco. Santi Buglioni's six panels, done in terra-cotta, together with other items cost four hundred and thirteen lire, nine soldi, or about sixty-eight lire per panel.

DOCUMENTS

1. "Francesco di Maso di Papi scarpellino da S. Martino
a Mensola si alloga collo Spedale del Ceppo di
Pistoia a provvedere tutta la pietra ed a fare
tutto il lavoro sul portico."

Milanesi, *Misc.* 32 III P c. 480 makes the above note from *Archivio di Stato, Sezione notarile, Rogiti di Ser Lorenzo Bellucci di Pistoia*. Protocollo del 1512, Feb. 24.

2. "a c. 364
Mdx

Benedetto di giovanni detto betto
buglioni de dare adj iiij di giannaio
f uno largo doro sono porto chontanti
per chonto de una nostra donna
si fa per sopra la porta dello spedale
dell ceppo di pistoia all quaderno
C ac. 113.
a uscita segnato C. ac. 234 f 1—"

"a c. cccx iiij
Mdx

Benedetto di giovanni
detto betto buglioni di
chonto de avere adi
xj di maggio 1512 f uno
largo doro sono per
tanti dare alibro
segnato d ac. 210 f 1-1—"

[*Archiv. dell' Arcispedale di Santa Maria Nuova, Libro Verde* (1508-1513),
segnato C c. 364.]

Milanesi, *Miscell.* 40 III P c. 367^t records the above document thus:

1510. Benedetto di Giovanni detto betto buglione de dare adi iiij di
gen. fior. uno sono p(er) chonto p(er) una nostra donna si fa
p(er) sopra la porta dello spedale del ceppo di Pistoia.

Fabriczy, *Riv. d'Arte* II, 1904, p. 139, published it as follows:

1510. *Benedetto di Giovanni detto betto buglioni de' dare adi xiiij di genaio fior. uno—sono per chonto di una nostra donna si fa sopra la porta dello spedale del Ceppo di Pistoia.*

3.

“+ yhs MDX

Sabato addj 4 di genaio

A betto brrugljonj ischultore f uno ch°(chontanti) jn(or)o

al q°o (quadernucio) detto (chassa s^{to} C) c 113 alibro verde s^{to} C c. 364

f 1 1—s—”

[*Archiv. idem, Uscita, C. 1508–1510 c. 234*]

4. “Benedetto dj Giovannj bu(g)lione iscu(l)tore avere p(er) uno archo sopra alaporta dj lospedale dj pistoia cheve (che v'e) una jncoronazione f 4 doro inoro isp° (ispedale) dare quvj disotto

f 4 1—

Et avere p(er) una arme p(er) detto ispedale jnchiesa

f uno doro inoro posto isp° dare qui disotto

f j 1—

Anne auto f uno doro inoro p(er) tanti avere a libro Verede

S^{to} C c 364

f j 1—

Anne auto f iiij doro inoro p(er) tanti avere alibro di pigione

e fitj L c12..... f 4 1—

Spedale dlceppo dj pistoia adare chome apare

alibro copie s^{to} d f 5 p(iccio)le le(sic) chose disopra dette[*Archiv. idem, Giornale D. 1512–1513 c. 210.*]

5.

“+ MDXIJ

	partite abbiamo noj et loro	partite abbiamo noj et loro	partite anno loro et noj
Spedale dj santa maria nuova dj firenze avere dallo spedale di santa maria dlceppo dj pistoia chome apare di la al di ripetto			
Et dj 11 dj Maggio 1512 l 35 p(iccio)li p(er) uno a°chale (archale) suuj (suvvi) una inchoronazione sopra alaporta dello isp° et una arme aute da benedetto bulionj al nestro g° s ^{to} d c— et aloro libro M c.....	l 35—	1—	1—”

[*Archiv. idem, Libro Copie e Conti, D. 1512–1518 c. 3.*]

6. "MDXIIIJ

Spedale di santa Maria dell ceppo di pistoia
de dare

.
.
.

1515 E de dare adi xxvj detto (marzo) 1515 f dua
l(arghi) doro i oro facciano buonj p(er) luj a
benedetto di giovannj ischultore avere all(ibro)
g^e e cl56 e sono p(er) una arme di
detto ispedale di terra chotta jnvetriata f 2-1—"

[Archiv. idem, Libro Azzurro, E. 1513-1516 c. 117.]

7. " + MdX

Benedetto dj Giovannj di Bernardo
dantonio ischutore a p(er) linea maschu-
lina et sotto istatj benj et danne
lanno lxxiiij et j^o paio di polastre
paghando dj vj mesj jn 6 mesj coe
una chasa chon sua abiturj et
partenezie (appartenenze) posta jn
via champo chorbolinj (now Via
Faenza) et pp^o disanl^o laquale
vene a questo ispedale p(er) donazione
fatta a questo isp^e p(er) Andrea
dagnolo nutinj lanno 1458
chonfinata a p(r)imo via
E dj tutto apare charta p(er)
mano dj Giovanni daromena
sotto dj 12 djsetteb(r)e 1489
et istando 2 annj no paghj
richade chome apare alibro
pigionj e fitj s^{to} A c 4 dovve
(dov'e) fatto debitore p(er)
tutto ap(ri)le 1510 resta adare
f iiij doro inoro s ij (error)
dj 8 aentrata (?) et paia 8½
di kⁱ (Kapponi) f 4 l—18-8
p(aia) 8½"

.
.
.
.

" + MdX

Benedetto dj Giovannj di Bernardo
dant^o iscutore avere adj xj dj
maggio 1510 f uno doro inoro r^o (re-
cato)
luj detto o franc^o cei p(er) valuta di
paia x dipolastre aentrata s^{to} c c79
in cⁿⁱ (capponi) f—1-p(aia)
10 p^e (polastre)
E avere adj 11 dj maggio 1512 f iiij
doro inoro p(er) j archio dj unachoro-
nazione et una arme p(er) pistoia a
g^{le} s^{to} d c 210 f 4 l—p—
E addi 26 dimarzo 1515 f cinque
doro inoro lⁱ (larghj) p(er) tanti
abbj avere algornale e cl56
sono p(er) piu lavori fattocj di
terra chotta chome
quivi si mostra f 5"

.
.
.
.

[Archiv. idem, Libro Fitti e pigioni, Segnato Fitti e Livelli, B. 1510-1520
c. 11^t e 12.]

8. " + MDXXIJ

Benedetto di gⁱ di b(ernar)do dantt^o
iscultore et altrj

Una chasa con sua abiturj
et appartenenzie posta ī
campo corbolinj

Daddj prjmo di magvenbre
(error for novembre) 1525 chome
disopra l cinquanta quatro
s 13 dj 4 di pli (piccioli)

et sono p(er) la pigone dj
mesj quatro e dj 21(?)
Oltre alfitto corso dalle

l 24 lanno che sono doppio
la morte dj m(esser) sano

Bochonj che morj di
settembre 1524 et dachordo

questo di come di sopra chon
santj di michele (last four words can-
celled)— f 7 l 5.13.4

(in margin, Oggi posto a fittj s^{to} D 78)
questo dj 4 di novembre 1525 la

chondotta santj dimichele
di santj schultore p(er)

duchatj x d^o lanno et
paja uno di chapponj

dachomjncjarsi adj prjmo
di novembre 1525 passato

carta p(er) mano di S(er)
alfonso corsi"

[*Archiv. dell' Arcispedale di Santa Maria Nuova, Libro Fitti e Livelli C. 1517-1525, c. 291.*]

9. " + MDXXVJ

Santj dimichele dj . . . schultore

a chondotto danoj e sottoschritj

benj qui appie appigione

Una chasa chon suo abiturj . . .

.

.

E(de dare) p(er) mesj tre

finitj addj ultimo digiennaio

1529 l dicasette s 10 pli coe—f 2 l 3 s 10 dj—p^a—

Venduta a Berto di Bernardo

chalvellj addj di gennaio 1529

chontrato p(er) S(er) Rafaello Baldesj"

[*Idem, idem, D. 1523-1533 c. 78.*]

" + MDXXIJ

Benedetto di gⁿⁱ di b(ernar)do
et altrj dichontro anno

avere.

.

.

.

.

R^o (Ricordo) Et avere D cinque

doro inoro et l 3. 5. 10 pli

et paja 16½ dichapponj p(er)

resto di questo conto

debjtore l conto di

santj dimichele al(li)b(r)o

pⁱ (pigioni) et fittj

d 72 D 5 l 3. 5. 11 p(aia) 16½

66 l 6. 2. 16½"

10. "Carta 254

MDXV

Giovanni dandrea dalla Robbia de
dare l trenta sette s 18 piccioli per
tanti abbia dato alibro segnato
e ac 381 che fu sopra pachato

f-l 37.

Carta cclij.

MDXV

Giovanni dandrea dalla
Robbia de avere l trenta-
sette s xviii piccioli per
tanti dare alibro giallo

segnato f ac 227

f-l 37. 18"

[Archiv. di Santa Maria Nuova, Libro Azzuro (1513-1516), segnato E c. 254
e CCLIIII.]

11. "Carta 227

YHS MDXVII

Giovanni dandrea dellarobbia de dare
f cinque s viij d ij doro larghi per tanti
fattolo chreditore alibro azurro segnato doro
e ac 254

f 5. 8. 2 lire

1517 E de dare addi xxvj di marzo f uno
doro porto chontanti a uscita f. ac. 108
E adi iiij° di marzo 1516 l cinque presono
per soprappiu che valeva una chappetta
nera si dette a uno suo garzone per
lamore diddio che valeva l 12 In circha
ed erasi cōta l 7 come si dae al giornale
di questo libro ac 118

f 1-lire

f—14.4-lire

1518 E a di xiiij dagosto f dua doro larghi Inoro
porto lui contanti de quali ne servito
sopra a uno battesimo a fare alla pieve
di galatrona a uscita ac 168/9. 2. 6
E de dare per insino a di xiiij daprile 1510
f due larghi doro Inoro per noi da messer
leonardo di giovanni buonafe chome
apare al suo quadernucio ac 61 posto
deto messer leonardo a uscita alibro
Roso segnato g ac 367

f 2-lire

f 2-

E a di xiiij di gienaro 1520 f uno largo
doro Inoro porto marchio suo figliuolo
chontanti a uscita g ac 240

f 1-

E a di xxviii daprile 1521 l iij s x
picc. porto marchio suo figliuolo chontanti
a uscita h ac 8

f-10

E a di 30 di deto l iij s x picc. porto
marchio suo figliuolo chontanti a uscita
h ac 8

f-10

f 13. 2. 6"

Carta ccxxvii

YHS MDXVII

Giovanni di contro de avere per tanti

posto dare alibro Y (crutch, emblem of hospital
of S. Maria Nuova) secondo

ac 31 f 13.2. 6"

[Archiv. idem, Cod. Giallo (1516-1518) segnato F. c. 227 e CCCXVII.]

12. "c. 199 c. CLXXXXVIIIJ

+ yhs MdXXV + yhs MdXXV

Giovanni dandrea della Robbia

Giovanni dandrea

de dare dj primo di settembre

di chonto de avere

l tre s x posto f a uscita c. 48

posto avere a libro f c. 105

l 3 s 10."

l. 3—s 10"

[Archiv. dello Spedale del Ceppo, Libro del Proveditore (Debitori e Creditori),
1524-1525, segnato E c. 199 e CLXXXXVIIIJ]

13. "c. 105 "c. CV

+ yhs MDXXV + yhs MDXXV

Giovan(n)j dandrea dla Robbia

Giovanni di chontro de

da spese de dare per uno

avere posto dare

suo chonto alibro e c. 199 l. 3 s 10"

alibro g c. 95

l 3 s 10."

[Archiv. idem, Libro idem, 1525-1526, segnato F c. 105.]

14. " + yhs MDXXV

Spedale del ceppo di pistoia di chonto de avere

.
.
.

E addi iiii° di febraio 1526 f sette doro Inoro

recho lazero fattore e pacchollj a giovanni

dandrea della robia debitore alibro debitorj

segnato j ac 163

f 7—s—"

[Idem, Libro Bianco, 1524-1535, segnato I c. CCLXXXII.]

15. "c. 95 "c. LXXXXV

+ MDXXVJ + MDXXVJ

Giovan(n)j dandrea dela robbia

Giovanni di chontro de

de dare per resto di suo

avere posto dare

chonto allibro F c 105 l 3 s 10"

alibro h c 95

l 3 s 10"

[Idem, idem, 1526-1527, segnato G c. 95.]

16. "Adi 5 di Febraio (1527)

Alo spedale di s ma na l quaranta nove mādātj l. 49

loro p(er) lazero commesso p(er) conto di quello della robbia—147—

.
.

A spese di Casa l quatro s 17. 6 p(er) gbla (gabella)

lib 200 di Caro di firenze 3 zane i° quāto di

castro 6 st(aia) di fave i° tondo dalla rubie da

firenze porto lazero detto—197

l 4 17 6"

[Idem, Entrata e Uscita H. 1526-1527 c. 48^t.]

17. "c. 147

+ yhs MDXXVJ

Spedale di s m^a n^e di chontro deon dare

.....

1527 E adi v di febraio f sette oro mandati

loro a firenze per lazero chomesso per

chonto di quello dela robia a Uscita c 48

1 49 oro."

[*Idem, Libro del Proveditore, 1526-1527, segnato G c. 147.*]

18.

" + yhs MDXXVIJ

Spedale di santa maria del ceppo di Pistoia

de dare

.....

E deono dare addj detto (21 di novẽbre 1527)

f trenta cinque doro Inoro fatti buoni p(er) loro

a Gⁱ dandrea della robbia creditore allibro

debitore segnato f ac 163

f 35-s"

[*Idem, Libro Azzuro (1526-1534), segnato K c. 52.*]

19. "c. 93

"c. LXXXXIII

+ yhs MDXXVIJ

+ yhs MDXXVIJ

Giovanni dandrea dela robbia

de dare a uno suo chonto

alibro G c 25

1 3 s 10"

Giovanni di chontro de avere

per tanti posto addare

alibro segnato I c 94

1 3 s 10"

[*Idem, Libro del Proveditore, 1527-1528, segnato H c. 93.*]

20. " + yhs MDXXVIIJ

" + yhs MDXXVIIJ

Giovanni dandrea della Robbia

de dare per tantj posto avere

alibro h ac. 93

1 3 s 10"

Giovanni dandrea di chontro

de avere posto dare

alibro K ac. 92

1 3 s 10"

[*Idem, idem, 1528-1529, segnato I c. 94.*]

21.

" + yhs MDXXVIIIJ

Giovanni dandrea della Robbia

de dare per uno suo chõto

alibro segnato I ac 94

1 3-s 10

[*Idem, idem, 1529-1530, segnato K c 92.*]

22.

" + yhs MDXXVIJ

Spedale di Santa Maria del ceppo di pistoia de dare . . .

.....

E de dare addi xx dicẽbre 1527 l otto piccioli fannocj

buonj p(er) santj di michele schultore sono p(er) terra

mādatagli p(er) suo chōto alle mosche porto batteo
di marcho da mōte spertolj p(er) loro da messer ldo
buonafe n° (nostro) maggiore creditore In questo ac 66 f 1 soldi 2. 10''

[*Idem, Libro Azzurro, 1526-1534, segnato K c. 52.*]

Milanese, *Misc.* 41 III P c. 227^t records the above document thus:

1527. *Spedale di S. Maria del Ceppo di Pistoia. E de dare adi xx di dicembre 1527 £ otto piccioli fannovi buonie per Santi di Michele scultore, sono per terra mandata per suo chonto alle Mosche.*

23. " + yhr MDXXVIJ

Messer Lionardo di giovanni buonafe nō maggiore de avere

.
.
.

Et addj xx di dicenbre l otto piccioli p(er) santi di b^{mo} (perhaps intended for b^{no} for buglione) schultore p(er) cōto del ceppo di pistoia debitore In questo ac 52 f 1 soldi 2.10''

[*Idem, idem K, c. LXVJ.*]

24. " + yhs MdXXVIJ

Santi di michele etc

(Here a long list of payments without reference to

what the payment was for, except in one case

for "staia di grano" and in another for "legna")

l 413.9''

[*Idem, Libro del Proveditore, 1527-1528, segnato H c. 114.*]

25. " + yhs MDXXVIIJ

Santi di michele schultore de dare

l 413.9 per uno suo chōto alibro F (H) c 114

l 413.9''

[*Idem, idem, 1528-1529, segnato I c. 110.*]

26. " + yhs MDXXVIIIJ

Santi di michele schultore de dare

per uno suo chōto alibro I c 110

l 413.9''

[*Idem, idem, 1529-1530, segnato K c. 105.*]

27. " + yhs m^e MDXXXIIIJ

R(icordo) Santj dj michele schultore de

dare p(er) tantj posto debbj avere

ī q° c 25 p(er) resto di quel

chonto 25 f-l 2. 0. 11

p^a 20½ capponi''

" + yhs m^e MDXXXIIIJ

Santj dj michele dichonttro

de avere addj 5 di settembro

l tre s x pli R^{co} (Reco) gⁱ

alb(er)tjnj contanti aentrata

S^{ta} 97 M

f-l 3. 10

E addj 27 dottobre l iij

s x R^{co} gⁱ albertjnj contanti

antrata 101

f-l 3. 10''

[*Idem, Libro Fitti e Livelli E. 1532-1551 c. 144 e CXLIIIJ.*]

28.

“+ MDLXXXIIIJ

Mercholedi adi p° di febbraio

A m° Filippo di lorenzo paladini Pittre l ventuna

piccioli porto contanti detto aconto delle figre

alibro Rosso B c 56

f 3—”

[Archivio di S^a M^a del Ceppo di Pistoia, Entrata e Uscita G, 1583-1586, c. 94.]

29.

“+ MDLXXXIIIJ

Lunedì adi 14 di Maggio

A filippo del libraio pittre l sette piccioli

porto contanti detto aconto di figure

alibro Rosso B c 56

f 1—”

[Idem, idem, c. 101^t.]

30.

“+ MDLXXXIIIJ

Sabato adi 16 detto (Giugno)

A m° filippo del libraio 1 dodici piccioli porto

contanti detto aconto delle figure—alibro Rosso B c 56

f 1.5—”

[Idem, idem, c. 103^t.]

31.

“+ MDLXXXVJ

Sabato adi 22 di Maggio

A m° filippo del libraio dipintre l quattro

piccioli porto giova' michele leg^{lo} (legnaiuolo) di suo

consenso per aconto di tre tavolette per le letta

di capi rotti—alibro Rosso c 56

f 4—”

[Idem, idem, c. 137^t.]

32. “Sabato adi 2 di agosto 1586.

A m° filippo di lor^{no} dipintore lire diciotto porto

lui contanti p(er) resto di quattro figure fatte p(er) sopra le letta

che mancavano et sono queste u(no) s. giovanni bat^au(no) S. Hyer^{mo} un s. pier martire et san cosimo et s.

Damiano p(er) u(no) scudo luna chosì costorno

le altre—alibro Rosso b c 56

f 2. 4—”

[Idem, Entrata e Uscita H 1586-1588 c. 41.]

ALLAN MARQUAND

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PRINCETON, N. J.

THE ORIGIN OF THE HORSESHOE ARCH IN NORTHERN SPAIN

THE use of the horseshoe arch in architecture seems to have been dominant in the north of Spain during the tenth and the eleventh centuries, occurring occasionally in the earlier churches of this period, becoming very general during the later part, and being almost wholly supplanted by the round Romanesque arch toward the end of the eleventh century.¹ In the south it is the usual form employed by the Moorish architects, appearing at the Mosque of Cordoba, 785-796, and persisting after the Christian conquest, in the Mudejar style, until the fifteenth century, when the renaissance of classic architecture established its own particular forms. It is a matter of considerable debate whether the horseshoe arch as found in the north is a derivative of the oriental form brought by the Moors from Africa and ultimately from Arabia and Mesopotamia, or whether it has a proper autochthonous existence free from oriental influence, and only resembles by chance the similar form in the south. Signor Rivoira² as well as M. Dieulafoy³ and most of the French archaeologists hold to the former theory, while the Spaniards in general favor the latter one.

In investigating the evidence in the case, the horseshoe form must be considered under three aspects: (1) As used in plan: (2) As used as a structural member in elevation: (3) As used in decoration.

1. There are a number of northern Spanish churches in which the apses have not the simple semicircular plan of classic and of most Romanesque architecture, but are more nearly three-quarters of a circle in outline, the curve being sometimes struck

¹ This development of the tenth and eleventh centuries is interestingly treated by Miss G. G. King in 'A Note on the so-called Horseshoe Architecture of Spain.' *A.J.A.* XX, 1916, pp. 40 ff.

² *Architettura Musulmana*.

³ *Art in Spain and Portugal (Ars Una)* English translation.

from a single centre as in San Miguel de Tarrasa,¹ San Miguel de Escalada,² Santiago de Peñalba,³ etc., and sometimes more irregularly and crudely fashioned, as at Santa Maria de Tarrasa.⁴ Now if the horseshoe arch in plan is an expression of the horseshoe arch in elevation, it is only necessary to show that one of the above examples is of earlier date than the Moorish conquest, to establish the claim for the Spanish origin of this form. In point of fact, however, there is not the slightest necessary connection between a form in plan and one in elevation. It is true that Roman architects were much given to the use of apses, rotundas, and niches in plan, and in elevation employed the round arch and dome, while Egyptian, and with a few exceptions, Greek architecture shows no curves in either plan or elevation. On the other hand Sassanian architecture is always arched and domed, but almost always rectangular in plan; Moorish architecture is always arched in elevation and rectangular in plan; Gothic architecture shows semicircular apses in plan while the vaults and arches are highly pointed, and in the churches of the Cistercian order these same pointed arches accompany plans which are completely rectangular. Moreover, the particular form under consideration, the horseshoe apse, is not peculiar to Spain, but is found in Provence,⁵ in Cappadocia and Lycaonia,⁶ and in rare examples in other widely separated localities. The likeness of the Spanish and Asiatic forms is very possibly fortuitous, there being apparently no intermediate steps, but the French and Spanish examples undoubtedly belong to a single school; for

¹ Lampérez y Romea. *Historia de la Arquitectura Cristiana en la Edad Media*, vol. I, fig. 73; Puig y Cadafalch *L'Arquitectura romanica a Catalunya*, vol. I, figs. 352, 375.

² Lampérez, *op. cit.* vol. I, fig. 104; Puig, *op. cit.* vol. I, fig. 416.

³ Lampérez, *op. cit.* vol. I, fig. 112.

⁴ Lampérez, *op. cit.* vol. I, fig. 525; Puig, *op. cit.* vol. I, figs. 352, 363.

⁵ At Vaison (Revoil, *Arch. Romane*, vol. II, pl. XXI), Montmajour (*id.* vol. II, pl. XXXII), in the now destroyed church of St. Saturnin at Apt (*id.* vol. I, pl. XXIII), and at Valcabrière (Viollet-le-duc, *Dict. d'Arch.* vol. II, p. 38, fig. 12 b).

⁶ Ramsay and Bell, *The Thousand and One Churches*. In these churches of Lycaonia horseshoe arches are to be found both in plan and elevation. Their dates, however, are very uncertain. Sir Wm. Ramsay mentions only six which he considers probably earlier than the eighth century (*op. cit.* p. 14); three of these show horseshoe arches in elevation only, one shows it only in plan, one has no horseshoe arches at all, and only one shows them in both plan and elevation.

beside the simple geographic relationship, both show the same peculiarity of being enclosed in masses which are externally square or polygonal. Now, in the French examples there is not the slightest suggestion of a horseshoe arch in elevation, nor for that matter is there in the church of San Miguel de Tarrasa, the only Spanish example whose date might reasonably indicate a pre-Moorish form.¹

The argument from the horseshoe in plan to the horseshoe in elevation must be barred out, then, as being architecturally unsound in general, and counter to the particular evidence in this case.²

2. In seeking for a native origin of the arch as a structural member in Spain, we find no evidence that it was used in any form whatever prior to the Roman conquest. Remains of Iberian architecture show houses and tombs of stone, which are sometimes vaulted with domes of horizontal corbelled courses, as in the Mycenaean tombs;³ and fortifications of huge, rough, or slightly worked masonry. The doors are always spanned by lintels. The argument from this, that the Iberians were unacquainted with the arch, is, of course, purely negative, but as it was in exactly such structures, tombs and city gates, that the Etruscans showed their mastery over the arch form, it may be considered an argument of very considerable weight. Not much is known of the influence of the Phoenician or Greek colonists, but the arch in any form was almost never used by either of these peoples; there is therefore small chance of its having been introduced by them into Spain.

With the Roman conquest, Roman architectural forms appear to have been universally adopted, the architects and superintendents of all monumental work being probably of Italian birth or education. Even the ornamentation on work of this period

¹ Rivoira, *op. cit.* pp. 273 ff. and Dieulafoy consider San Miguel to be a church of the ninth century restored in the twelfth century. Puig and Lampérez consider that it was built between 550 and 711 and restored probably in the ninth century.

² There are many isolated examples of horseshoe curves in plan which have no relation to the same form in the elevation; *e.g.*—the easternmost apse of the group of churches called Santo Stefano, at Bologna. It may also be noted that the seats of Greek theatres usually form more than a semicircle in plan, without implying the use of the horseshoe arch in Greek art.

³ Puig, *op. cit.* vol. I, pp. 9 ff. Dieulafoy, *Art in Spain and Portugal*, pp. 49 ff.

shows no local individuality, though in some cases native workmanship is indicated by great crudeness in the imitation of Italian decoration. Arches are of course very common in triumphal monuments, amphitheatres, aqueducts, etc., but are without exception of the normal semicircular Roman type.

There is no reason to suppose that the Visigothic invasion changed this universal Roman architecture appreciably, except to supplant skillful workmanship by native poverty and clumsiness. The barbarians themselves were a semi-nomadic people unused to building in stone, and were only too eager to adopt as best they could the arts of the higher civilization they overcame.

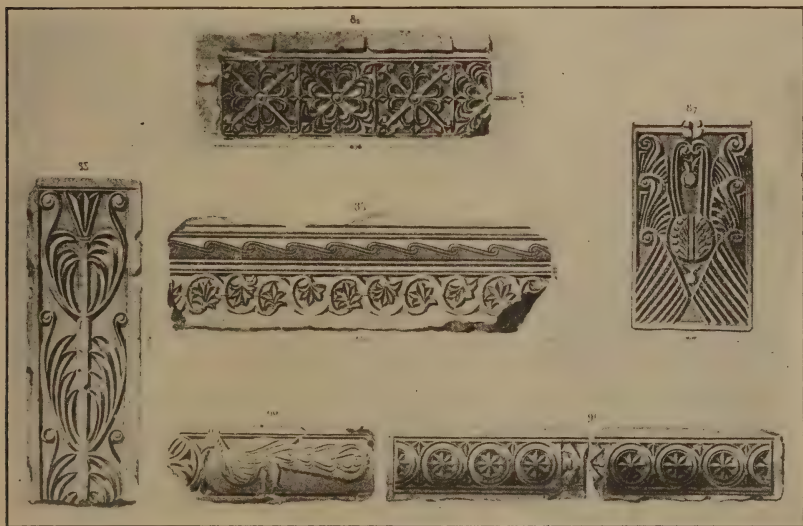


FIGURE 1.—VISIGOTHIC CARVINGS.
(*Monumentos Arquitectonicos de España.*)

During the century and a half which followed the accession of Athanagild (554–567), however, a new influence appeared. Many fragmentary sculptures from Visigothic buildings of this period are in existence (Fig. 1).¹ These show a marked Byzantine influence in subject and treatment. Such subjects as two peacocks facing inward toward a cross or monogramme of Christ, are unmistakable in origin. There is a possibility that the horseshoe arch may have been introduced into Spain at this time, for

¹ Cf. Dieulafoy, *op. cit.* fig. 108.

it was certainly known to the architects of the Eastern Empire. On the other hand, the character of these Visigothic carvings and particularly the very wide use of the rosette, the helix, and the star inscribed in a circle point to Syrian influence rather than to that from further north; and in Syria at this time the horseshoe arch was rare while the semicircular arch was very abundant.¹

It is a matter of acute debate as to whether there are any monuments in Spain which can be assigned with reasonable certainty to a period between that of Roman domination and the conquest by the Moors. Señor Puig y Cadafalch claims that the three churches at Tarrasa were built between 550 and 711.² Señor Lampérez admits this date for San Miguel alone;³ but since the horseshoe arches in San Miguel occur only in plan, as has been said, this discussion does not vitally concern us. The only other remains which are in any state of completeness, for which Señor Lampérez claims a date prior to the Moorish invasion, are San Juan de Baños,⁴ Santa Comba de Bande⁵ and San Pedro de Nave.⁶ This claim has been disputed in all three cases.⁷ The claim for San Juan de Baños, the barrel vaults and arches of which are all horseshoe in shape, is based on an inscribed stone set above the triumphal arch, which gives the date of the foundation of the church as the year 661, in the reign of Receswinth. M. Dieulafoy⁸ contends that while the stone itself is genuine, the only remains of a church of that date are the lower parts of the walls, and the shafts and capitals of the columns, the inscribed stone having

¹ De Vogüé, *La Syrie centrale*, vol. I, pl. 33, shows two small niches, finished at the top with horseshoe vaults in the form of shells. These are shown also by H. C. Butler, *Architecture and other Arts* (Part II of the *Publications of the American Archaeological Expedition to Syria in 1899-1900*), p. 258, who dates them in the sixth century. Texier and Pullan, *Architecture Byzantine*, pl. LIX, show a horseshoe vault and apse in the church at Dana (North) which they date at 540 A.D. Butler (*op. cit.* p. 142) gives the date as 483 A.D. Butler (*op. cit.* p. 229) also shows a large horseshoe relieving arch over the west portal of the North church at Ruwâhâ, of the sixth century. These are the only instances of this form which I have been able to find in Syria at this period.

² Puig, *op. cit.* vol. I, pp. 333 ff.

³ Lampérez, *op. cit.* pp. 162 ff.

⁴ Lampérez, *op. cit.* pp. 145 ff.

⁵ Lampérez, *op. cit.* pp. 153 ff.

⁶ Lampérez, *op. cit.* pp. 157 ff.

⁷ Rivoira claims that the only genuine monument of the Visigothic period to be found in Spain is the Basilica at Elche. In this only the semicircular arch is to be found. *Op. cit.* pp. 269 ff. and p. 330.

⁸ *Op. cit.* pp. 65 ff.

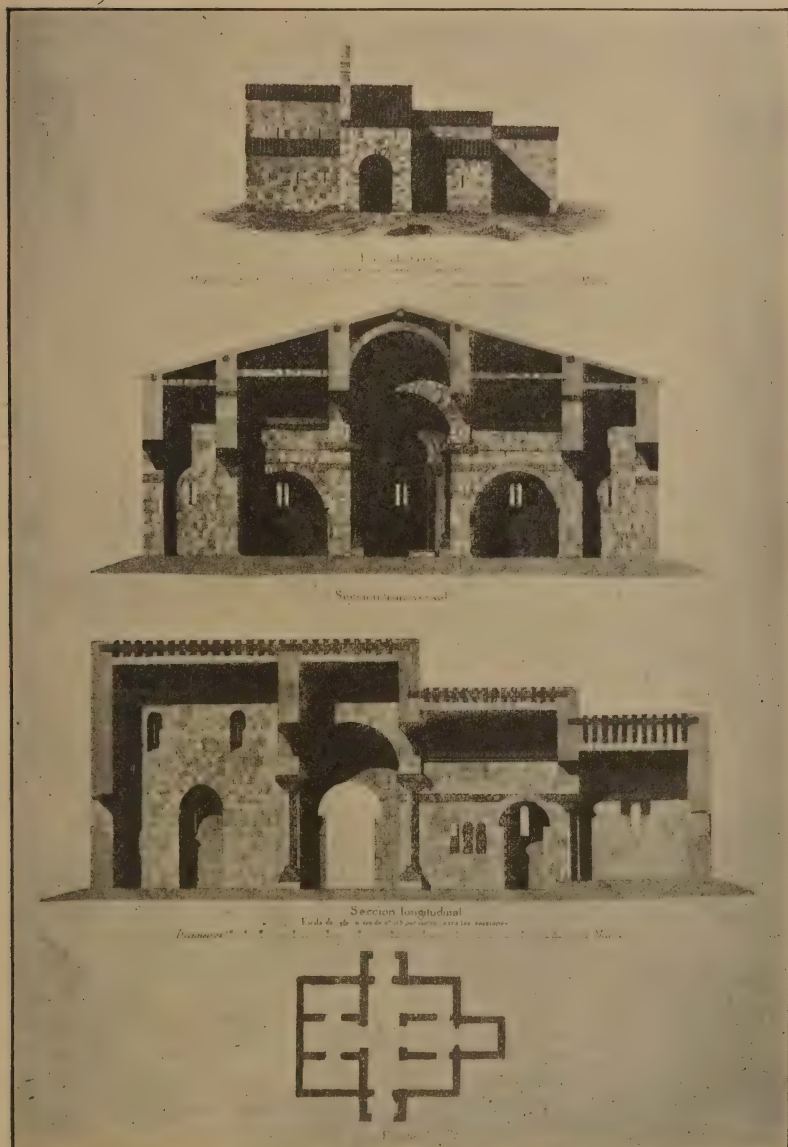


FIGURE 2.—SAN PEDRO DE NAVE.
(*Monumentos Arquitectonicos de España.*)

been reset in a building of the late ninth century. It is certain that other fragments of Visigothic workmanship have been rebuilt into the walls, and if we consider the present church to be the structure of 661, we must presuppose a still earlier Visigothic building from which these fragments came. Such an hypothesis is hardly tenable.¹ Santa Comba de Bande has round barrel vaults, the horseshoe only appearing in the arches of the crossing and in the triumphal arch borne on coupled Roman columns. This church is assigned by Señor Lampérez to the seventh century,² but this assignation is little more than guesswork, and is not at all universally accepted.

The Church of San Pedro de Nave has semicircular barrel vaults, some semicircular arches, and some in which the semicircle is wider than the jambs of the opening below (Fig. 2), suggesting a relieving arch above a lintel which, along with the tympanum between it and the arch, has now disappeared. The arches of the crossing and the triumphal arch are horseshoe in shape and are borne on columns applied to the walls. Señor Lampérez claims that this church must have been built before the invasion of the Moors or else after 893 and inclines strongly to the earlier date.³ The probable former existence of square topped doorways would indicate a type of architecture more closely allied to Roman practice than we have found elsewhere. Granting this, it is also quite possible that the triumphal arch and the arches of the crossing are of later construction than the rest of the building. Considerable alterations have undoubtedly been made at one or more periods. All the windows to the east of the crossing have square jambs, in the Roman manner, while those of the nave are splayed, as in Romanesque work. The arches above the openings into the side chapels were almost certainly introduced after the original building to relieve the load on defective wood or stone lintels, for it is hardly conceivable that the haphazard conjunction of these arches with the band of carved

¹ Rivoira, *op. cit.* pp. 257 ff. maintains that some of the capitals are of the late eleventh and twelfth centuries, and that the plan is posterior to the year 1000. The whole church is therefore according to him a reconstruction of the eleventh and twelfth centuries. A complete résumé of the French point of view is given in Cabrol, *Dictionnaire*, s. v. 'Baños, San Juan Bautiste de'.

² *Op. cit.* pp. 153 ff. Rivoira, *op. cit.*, pp. 262 ff. suggests that it may be of the ninth century, possibly on Roman foundations.

³ *Op. cit.* p. 160.

ornament which runs around the choir, could have been originally intended. Furthermore, the columns which carry the arches of the crossing have been apparently applied to the walls directly on top of this band of ornament; the caps and bases are of a special style of carving, introducing vines, birds, and animals, while the ornament elsewhere consists of Syro-Visigothic rosettes, and the lower voussoirs of the arches on each side, which carry the curve in from a point where it would become tangent to the



FIGURE 3.—SAN PEDRO DE NAVE: INTERIOR.
(After Lampérez y Romea.)

walls, appear in photograph to be of a different surface character from the rest of the arch stones (Fig. 3). It would also seem much more probable that these shafts were added after 873 for greater decoration, and the arches above curved in to fit, than that large horseshoe arches were employed in one part of the church, and large semicircular arches used simultaneously elsewhere.

The date of 672, which has been ascribed to the church of Bamba (Valladolid) Señor Lampérez himself considers doubtful.¹ This church, of which the eastern end alone remains unaltered, has horseshoe vaults and arches throughout. But in plan it very closely resembles the church of Santa Maria de Lebeña² (Santander) which also shows horseshoe barrel vaults and horseshoe arches throughout. The latter seems dated with fair certainty

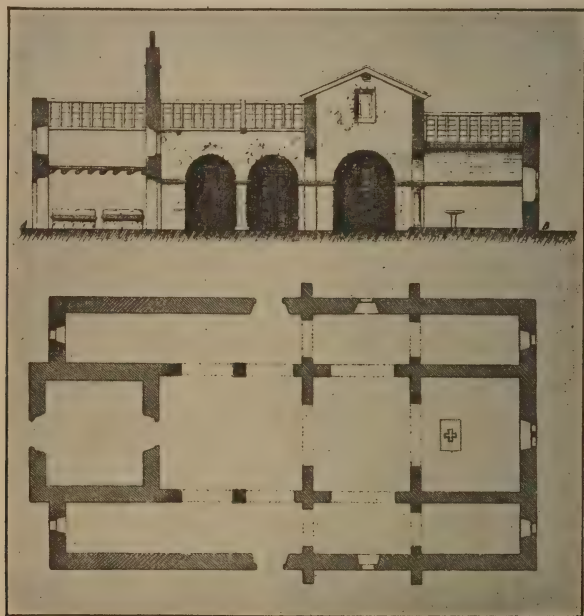


FIGURE 4.—SAN JUAN DE PRAVIA (SANTIAÑES).
(After Lampérez y Romea.)

at 925, and the former probably belongs to nearly the same period.

The earliest post-Roman monument, which can be dated with comparative certainty, is the church of San Juan de Pravia, commonly called Santiañes, near Oviedo (Fig. 4).³ Literary evidence ascribes the building of this church to Silo, King of the

¹ *Op. cit.* pp. 240 f., figs. 126–127.

² Lampérez, *op. cit.* pp. 236 ff., figs. 122–123.

³ Rivoira, *op. cit.* p. 332, and the very excellent monograph on this monument by F. De Selgas, in the *B. Soc. Esp.* XXIV, pp. 29–51 and 97–140, illustrated fully and in color.

Asturias from 774 to 783. Though it has undergone considerable changes at later periods, the original arrangements and architectural features are clearly evident. The building is extremely poor and crude architecturally and almost wholly devoid of sculptural ornamentation, though it was elaborately frescoed throughout. There is no trace of any horseshoe arch, but on the contrary large semicircular arches separate the nave from the

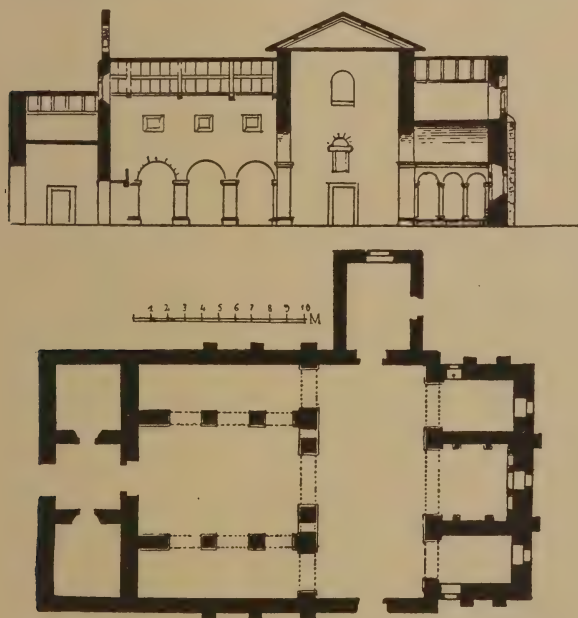


FIGURE 5.—SAN JULIAN DE LOS PRADOS (SANTULLANO).
(*B. Soc. Esp.* XVI, p. 288.)

aisles, and the sanctuary is covered with a semicircular barrel vault.

Next in date come three monuments in or near Oviedo, assigned without dispute to the reign of Alonzo II (791-842). These are San Julian de los Prados (commonly called Santullano), San Tirso, Oviedo, and La Camara Santa. San Julian de los Prados (Fig. 5)¹ closely resembles San Juan de Pravia, with semicircular barrel vaults in the apses and semicircular arches throughout. The workmanship is somewhat better than at San Juan but decoration is still noticeably absent. It is interesting

¹ Lampérez, *op. cit.* pp. 288 ff., figs. 160, 161, 162.

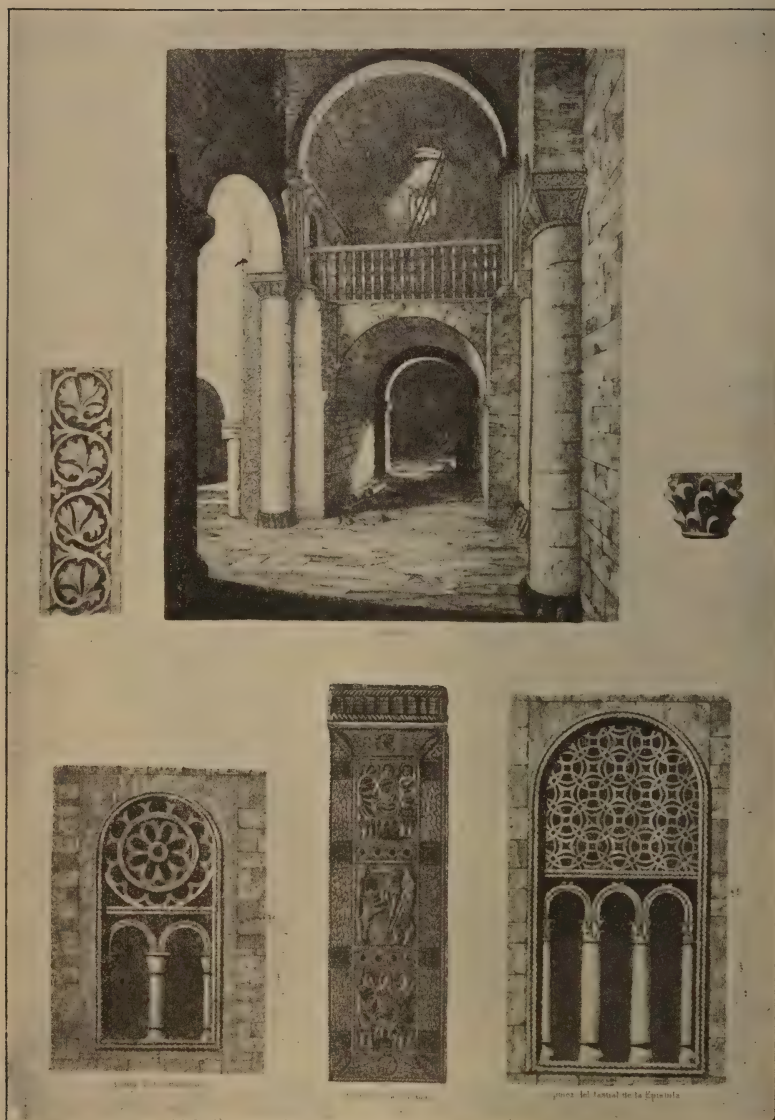


FIGURE 6.—SAN MIGUEL DE LINIO.
(*Monumentos Arquitectonicos de España.*)

to note the use of lintels above the windows in this early Asturian work, as this feature, which we have inferred in the primitive construction of San Pedro de Nave, rapidly becomes very rare. The only certain survival of the primitive construction of San Tirso is a triple window with semicircular arches, and the Camara Santa is a plain, reliquary chapel, covered with a simple semicircular barrel vault.

Of slightly later date are the churches of San Miguel de Linio¹ (848), Santa Cristina de Lena,² and Santa Maria de Naranco,³ the last in all probability originally a royal kiosk. All three are near Oviedo and all show a peculiar type of ornamentation, marked by the use of twisted cords or spiral bands, apparently derived, not from Roman or Byzanto-Visigothic stone carving, but from the goldsmith's work of the period. This is especially noticeable in San Miguel de Linio (Figs. 6 and 9 f.), where the large capitals and bases show no classic influence whatever. In all of these buildings the arches and vaults are semicircular throughout.

San Salvador de Val-de-Dios at Bogies, near Villaviciosa (893)⁴ shows the first horseshoe arches which can be surely dated. These occur in small coupled windows (Fig. 7). The twisted spiral decoration points to a period near that of the three monuments just mentioned, for this treatment apparently disappears in the early tenth century. But the large arches and barrel vaults in San Salvador de Val-de-Dios are still all semicircular. In San Salvador de Priesca, Villaviciosa (920), the arches of the nave show a slight horseshoe form,⁵ while the barrel vaults and all other arches are semicircular; and in San Miguel de Escalada, Léon (914),⁶ vaults and arches are for the first time all of horseshoe form.

Other churches dating from the middle of the tenth century, Santa Maria de Lebeña⁷ (Santander), San Cibrian de Mazote,⁸

¹ Lampérez, *op. cit.* pp. 292 ff., figs. 163-166.

² Lampérez, *op. cit.* pp. 300 ff., figs. 170-171. Rivoira, *op. cit.* p. 356, is inclined to believe that Santa Cristina de Lena does not date from the reign of Ramiro I (842-850) but only from about 950.

³ Lampérez, *op. cit.* pp. 296 ff., figs. 167-169.

⁴ Lampérez, *op. cit.* vol. I, pp. 303 ff., figs. 172-174.

⁵ Lampérez, *op. cit.* vol. I, fig. 176.

⁶ Lampérez, *op. cit.* vol. I, pp. 217 ff., fig. 103.

⁷ Lampérez, *op. cit.* vol. I, pp. 236 ff., figs. 122-123.

⁸ Lampérez, *op. cit.* vol. I, pp. 223 ff., figs. 106-109.

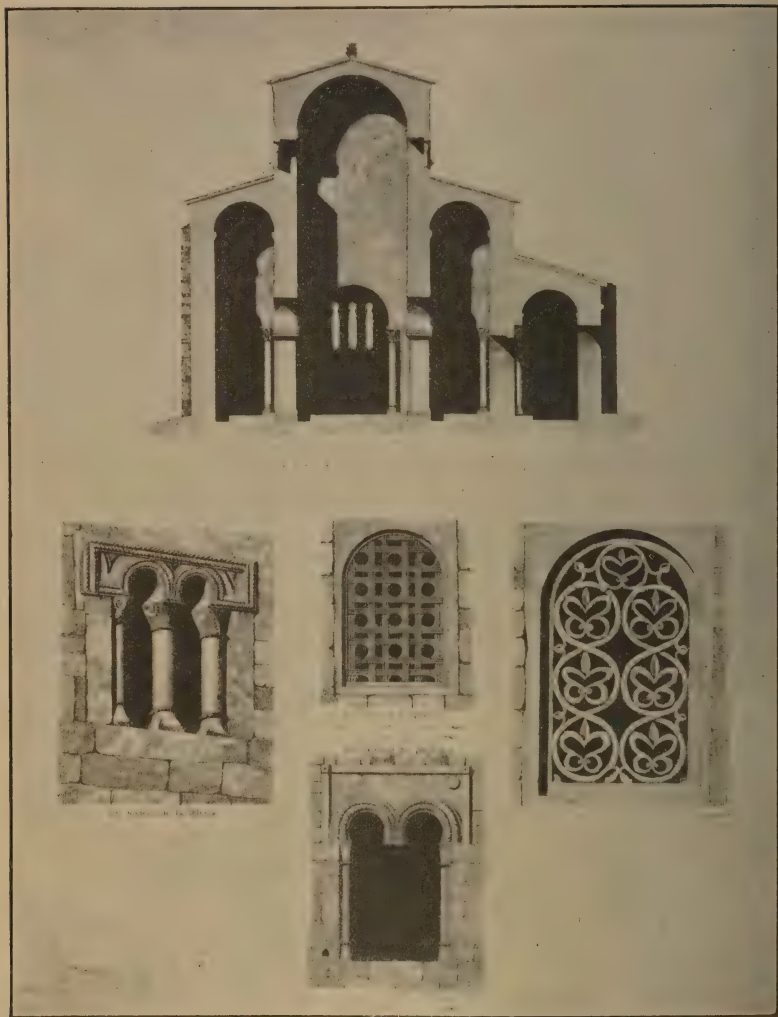


FIGURE 7.—SAN SALVADOR DE VAL-DE-DIOS.
(*Monumentos Arquitectonicos de España.*)

Santiago de Peñalba (Léon),¹ Santa Maria de Melque,² and the Ermita of San Baudelio de Berlanga,³ all show the fully developed horseshoe form throughout.

¹ Lampérez, *op. cit.* vol. I, pp. 227 ff., figs. 111-113.

² Lampérez, *op. cit.* vol. I, pp. 215 ff., figs. 100-102.

³ Lampérez, *op. cit.* vol. I, pp. 247 ff., figs. 132-137. This church may be no earlier than the twelfth century, though usually assigned to the tenth.

There is, then, no evidence whatever of the existence of the horseshoe arch as a structural element in elevation in northern Spain prior to the end of the Roman dominion and the instances cited of its use during the Visigothic period are all open to serious question. On the other hand, the semicircular arch was the typical form under the Romans, is found at San Pedro de Nave in work very possibly of the seventh century, and appears again as the only form used in the latter half of the eighth and throughout the whole of the ninth century. The appearance and rapid development of the horseshoe form, following the arrival in the north of the monks driven from Cordoba by the persecutions of 852-886, is clearly shown in the monuments of the first half of the tenth century.¹

3. There is left to be considered the possibility of the origin of this form in Spain as a purely decorative feature. Remains of Iberian art are insufficient to give any definite idea of its characteristic motives. In its early examples, there may have been a certain Minoan influence,² while from the fifth century B.C., the influence of Hellenic and perhaps Phoenician art was marked, as shown for example in the famous bust of a lady, found at Elche,³ now in the Louvre. There is no reason, however, to think that the horseshoe arch belonged to the decorative repertoire of any of these schools. During the Roman period the decoration is as thoroughly Romanized as the architecture it embellishes. Carvings and mosaics show rinceaux, garlands, masks, trophies, instruments of sacrifice, birds, animals, bands of eggs and darts, etc.; in general the conventional Roman decorations, executed well or crudely, according to the nationality and training of the workman.⁴

There are, however, certain notable exceptions, consisting of funerary cists and stelae, which according to Señor Puig y Cadafalch show a survival of native Iberian decoration.⁵ These remains may be divided into two classes, the cists,⁶ found in the Pyrenees and to the north, which are decorated characteristically with two crudely carved figures under a semicircular arch, and

¹ Cf. Rivoira, *op. cit.* p. 330.

² Puig, *op. cit.* vol. I, figs. 20-21.

³ Cf. Dieulafoy, *op. cit.* p. 51, fig. 97, and Baur, *A.J.A.* XI, 1907, pp. 182 ff.

⁴ Puig, *op. cit.* vol. I, figs. 22-25, 45, 88, 98, 185, 229-230, 249, 254.

⁵ Puig, *op. cit.* vol. I, ch. XXIV.

⁶ Puig, *op. cit.* vol. I, figs. 301-309.

the stelae,¹ which appear to be peculiar to the neighborhood of Léon (Fig. 8). The stelae, with one exception which bears an inscription in Iberian characters,² are of good workmanship, and though most of them have lost the upper or lower part, evidently bore a system of decoration which in spite of minor variations seems to have been definitely fixed. At the top was a large rosette with straight or spiral rays, cut with sharp V-shaped incisions in the manner of Byzanto-Syrian carvings. Below this



FIGURE 8.—STELAE FROM LÉON.
(After Puig y Cadafalch.)

is an object which may be a crescent moon or a wreath, sometimes accompanied by two star-like rosettes smaller than the one above. In the third register is an inscription giving the name of the deceased, in good Latin characters of the second to the fourth century A.D.³ Occupying the lower corners of this register,

¹ Puig, *op. cit.* vol. I, figs. 295, 298, 230. Lampérez, *op. cit.* vol. I, figs. 34, 35. Two are in the Arqueologios Nacional in Madrid, two at Léon, one in San Miguel de Escalada, one in Rabanalles (Alcañices, Zamorra), one in Picote (Miranda de Duero) and one in Mertola.

² Puig, *op. cit.* vol. I, fig. 230.

³ The stele at Mertola is Christian and bears the date 525 A.D.

or sometimes those of the register above, are two bars each bent sharply at right angles and notched at both extremities. The lowest register shows in flat relief an arcade of two or three distinctly horseshoe arches, the centre one being larger than those at the sides in the case of the triple arcade. The stelae as a whole are frequently framed by two flanking colonnettes which bear at the top an arch enclosing the large topmost rosette. This arch is sometimes of definite horseshoe form.

The funeral cists, the first of these two classes, are probably merely debased native copies of the motif of figures under an arch, very common as a central panel on Roman sarcophagi;¹ the second class, the stelae, is distinctly unroman in subject-matter and treatment, though of good workmanship and proven beyond doubt by the inscriptions to belong to the Roman civilization of the second to fourth centuries. These earliest and apparently unrelated examples of the horseshoe arch in Spain will be further considered later.

In the character of Visigothic carved ornament there is a well marked individuality with probably much Byzantine influence, as has been said above. Considerable remains of the gold work of the period have also been preserved, the earliest being the votive crowns discovered at Guarrazar.² Two of these bear the names of Swenthila (621-631) and Receswinth (659-672). Their ornamentation, consisting largely of cabuchon gems in raised besils, is of a very simple character and may possibly be of Visigothic origin; on the other hand it has a very Byzantine appearance and is more probably copied from oriental work. The use of enamel in small "cloisons" seems undoubtedly a Visigothic introduction. Other examples show applied bands, spirals, and arcades of twisted wire soldered to the surface (Fig. 9a).³ Similar arcades of twisted wire are found on a chalice bearing the name of the lady Urraca at the Collegiata of San Isidore at Léon (Fig.

¹ In one instance the arch is distinctly horseshoe; this may, however, have been an accidental variation as in the famous III-IV century Roman sarcophagus in the Villa Mattei on the Celian hill in Rome, where small arches are in some cases curved into nearly full circles to fit the heads of figures standing beneath them. This halo-like effect forms no established school and can hardly be considered other than a decorator's whim. Cf. Rivoira, *op. cit.* p. 138, figs. 115-116.

² Now divided between the Cluny Museum, Paris, and the Armeria, Madrid. Lasteyrie, *Description du Trésor de Guarrazar*. Dieulafoy, *op. cit.* fig. 105. Elaborately illustrated in *Monumentos Arquitectónicos de España*.

³ *Monum. Arg. de Esp.*

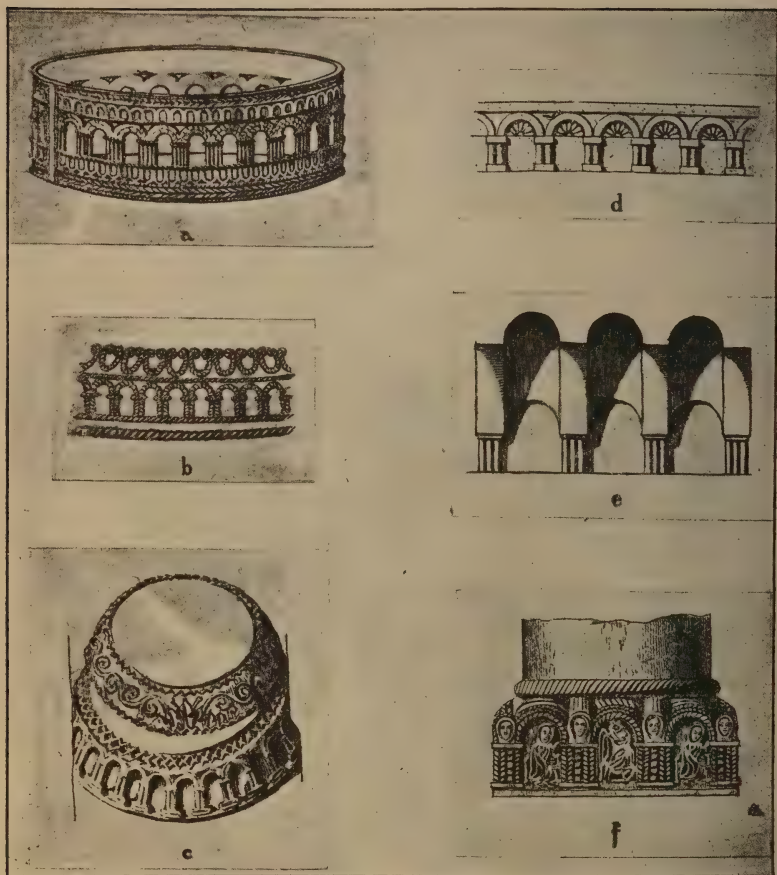


FIGURE 9.—ARCADES ON COUPLED COLUMNS: a, b, VISIGOTHIC; c, BYZANTINE; d, e, SASSANIAN; f, ASTURIAN.

9b).¹ This arcade decoration may have been inspired by the arcades on Christian Roman sarcophagi, but is much more probably of Byzantine inspiration, as arcades on *coupled* columns are almost unknown in Roman decoration though quite common in eastern work (Fig. 9c, d, e).² Throughout this decoration, as

¹ *Mon. Arq. de Esp.* M. Paul Leprieur in Michel's *Hist. de l'Art*, vol. I, p. 412, mentions a similar motif on a votive crown of Agilulfe, formerly preserved in the treasury of Monza, Italy.

² Fig. 9 c, From a Byzantine ivory carving, late eleventh century, Dalton, *Byzantine Art and Archaeology*, p. 228, fig. 139. Michel *Hist. de l'Art*, I, pl. III. d, Detail from abacus of capital, Tag-è-Bostan, Dieulafoy, *op. cit.* fig. 32. e, Interior wall, Kasr-Karaneh, *ibid.* fig. 25. f, San Miguel de Linio.

well as in the scallop-shell niche ornament of Byzanto-Visigothic carving, the arches are always semicircular.

The rosette, helix, or cross inscribed in a circle, used singly or in bands of these elements (Fig. 1), is a motif apparently introduced from the east at this time. Thousands of similar disks of various designs have been found in all parts of Syria.¹ Though very frequently containing Christian symbols, their origin is probably to be sought in the religious art of Mesopotamia where the sun-disks and star-disks represent Shamash and Ishtar. In Syria their use was probably purely talismanic.

In the south the horseshoe arch becomes a characteristic motif, decoratively as well as structurally, from the time of the Moorish invasion, its ancestry running in a continuous line through the Moorish architecture of North Africa,² the mosques of Egypt,³ pre-Islamic architecture of Syria,⁴ and finally to Mesopotamia.⁵ In the north, the earliest Asturian monuments are, as has been said, almost wholly devoid of ornament. When ornament does appear it shows little or no reminiscence of Roman or Byzantine sculptural forms, but is copied apparently from the gold work of the period.⁶ The use of the twisted rope or wire is very prominent and the decorative arches are, as one would suspect from such parentage, all semicircular (Fig. 9 f).

The earliest instance of the use of the horseshoe arch in decoration in the north, for which any definite date can be claimed, is found in a pierced stone slab in the chancel screen at Santa Cristina de Lena⁷ (*ca.* 850). Even here it seems probable that the whole screen is somewhat later than the body of the church; if so, the earliest example would be the windows (Fig. 7) mentioned before at San Salvador de Val-di-Dios (893). During the

¹ Butler, *op. cit.* p. 32 and footnote; illustration, p. 33.

² Mosque of Djami Zitouna, Tunis, 732 A.D. Mosque of Sidi Okba, Kairouan, 670 A.D.

³ Mosque of Amru, Cairo, 642 A.D.

⁴ Rabbat Amman, seventh century.

⁵ Tag-e-Kesra, Firuz-Abad, etc., fifth to fourth centuries B.C., according to Dieulafoy; third to seventh centuries, A.D., according to de Morgan and others; in any case probably earlier than the Syrian examples. Rivoira, *op. cit.* pp. 113-114, claims that the oldest known horseshoe arches are to be found in India and date from the third century B.C.

⁶ The decoration in San Miguel de Lino is in places so strikingly like that on the Visigothic crowns, and in other places so suggestive of ivory carvings that I strongly suspect that the court jeweler himself designed and perhaps executed it.

⁷ Dieulafoy, *op. cit.* fig. 120.

tenth century this form was as common in ornament as in construction, and by the end of that century became general also in illuminated manuscripts.¹

As there is no certain evidence of the existence of any horse-shoe arch in Spain in any form before its introduction by the Moors in the south, with the exception of the funerary stelae at Léon from the second to fourth century, these stelae become the sole definite argument in support of the theory of its native origin. The two most noticeable facts about them are, that the decorative arrangement is apparently fixed by some convention; and that this decoration bears no resemblance in subject or character to Roman work in Spain or elsewhere in the west, despite the fact that the inscriptions are thoroughly Roman in character, and that all other Spanish work of the time is wholly Romanized.² The inference is that these stelae are the product of some particular religious cult, apparently localized about Léon. Señor Puig y Cadafalch³ considers them to be monuments of a recrudescence of the primitive Iberian sun-worship which had lain dormant during the early centuries of the Roman conquest, and revived with the decline of that foreign influence. The decorations on the stelae do very possibly indicate some forms of luminary worship, the great helix at the top representing the sun, with the moon and two six-pointed stars below, but the theory that this cult was of primitive native origin is open to several objections. In the first place there are no pre-Roman remains indicating such an Iberian symbolism; in the second such a recrudescence of a primitive religion with the decay of that of Rome would be counter to the facts in all other parts of the Empire—the first to the third centuries seeing a great growth of *new* religions from the east—neoplatonism, Mithraism, Isis worship, Christianity and its allied Magian cults, Manicheanism and Gnosticism, even Judaism; but showing nowhere any revival of the gods of the Etruscans or of the Celts; and in the third

¹ Commentary of San Beatus di Liebana, copy at Gerona, 975 A.D., copy in Nat. Lib. Madrid, 1057 A.D., etc. Cf. Dieulafoy, *op. cit.* pp. 79 ff., fig. 158-159; Puig, *op. cit.* vol. I, fig. 470, and tailpiece, p. 419. The cup of San Domingo (1041-1075) at Silos, cited on p. 393, is decorated with arches on coupled supports, worked in applied twisted gold wire, as in the Visigothic jewelry; but in this case the arches are distinctly curved in at the bottom.

² One of those at Léon was erected for Camplus Paternus, a knight, at the expense of his wife, by the hand of Flavius Camplius Nopirus, a freedman.

³ *Op. cit.* vol. I, ch. XXIV.

place the apparent centre of this cult, León, the great military barracks of Spain, would be of all places least propitious for the re-establishment of a primitive folk-worship.

Granting the probability that these stelae belong to some cult of the heavenly bodies, the alternative to the theory of indigenous origin is that the cult was of later importation from outside of Spain. Señor Lampérez¹ feels that they are marked by a funerary symbolism, which may belong to a cult of Diana, or may be from the east. This hypothesis seems much more reasonable, for sun-worship, Mithraism, and allied cults, mostly of Persian origin, were rampant in the second to fourth centuries, especially among the Roman soldiers, and León was the headquarters of the Seventeenth Roman Legion, the only legion in Spain. It is true that these stelae show no resemblance to the established iconography of Mithraism itself, but as it happens, Mithraism apparently had less development in Spain than in any other Roman province,² no authentic monuments and only four inscriptions of unquestioned Mithraic origin having been found there. On the other hand inscriptions referring to sun-worship are less uncommon, Cumont publishing nine of them,³ and finding the centre of a well developed cult in Galicia and the Asturias. The characteristic arrangement on the León stelae may be interpreted by analogy with Mithraic symbolism to indicate,—above the heavens with sun, moon, and stars; in the middle zone, where the inscription and unidentifiable angles are placed, the earth; and below, the cavern under the earth where the ceremonies of the cult occur. This cavern, as in Mithraism, would naturally be of a prescribed form originating in the east, and the horseshoe arches by which it is represented on the stelae might well be an intentional indication of Oriental architecture as opposed to that of every day use. On the other hand the prevalence of the helix and six-pointed star as Jewish talismanic emblems lends color to the theory of Jewish origin, and as Señor Lampérez points out, Judaism was very prevalent in Spain from the end of the second century.⁴ In either case the decorative forms on these

¹ *Op. cit.* p. 127.

² F. Cumont, *Textes et figures relatifs aux Mysteres de Mithra*, vol. I, p. 260.

³ *Op. cit.* vol. II, pp. 166 ff.

⁴ *Op. cit.* p. 127. There are a number of Coptic stelae in the Cairo Museum which bear a certain resemblance to the Spanish stelae. These are, however, presumably Christian and of later date. Cf. *Catalogue, Musée des Antiquités Egyptiennes*, vol. IV, pl. XXII, 8531; pl. XXIII, 8532; pl. XXXII, 8585; pl. XXXIX, 8625. Also Gayet, *L'Art Copte*, pp. 78, 89.

stelae, being foreign importations without local antecedents and with no general architectural application, could not possibly have produced a sufficiently strong impress on the tastes of Spain to preserve the horseshoe arch from the second or fourth century through a period of domination by the Roman, Byzantine, and Visigothic semicircular arch, to a refflorescence in the tenth century.¹

My conclusions are:—

The horseshoe apse in plan bears no relation to the horseshoe arch in elevation.

There is no certain evidence of the horseshoe arch used architecturally in Northern Spain before the end of the ninth century, while there are quite certain examples of the continuous use of the semicircular arch from the Roman conquest until that date.

There is no evidence of the horseshoe arch used as a decorative motive in Northern Spain before the middle of the ninth century, with the exception of certain funerary stelae at Léon.

These stelae are probably artistic "sports," the expression of an imported oriental cult and without influence on the later architectural forms of Spain.

The horseshoe arch is not, then, autochthonous to Spain, but being brought into the south by the Moors in the early eighth century spread to the north by the end of the ninth.

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¹ Miss G. G. King informs me that the helix and six-pointed star are found as talismanic emblems in Spain to-day. Apparently this use has continued uninterruptedly from the late empire down. It need not surprise one that the horseshoe arch should have disappeared while its companion, the star, persisted, for the one is definitely an architectural member and would be vitally affected by current architectural practice, while the other, being a purely decorative form, depends only on superstition for its preservation. It should be noted also that the six-pointed star in a circle is a very common form of decoration, being found for example on the baptistry of St. Jean at Poitiers, (sixth century ?) and at the present day being habitually painted on barns in certain counties near Philadelphia. In the latter case I believe protection from lightning is thus secured.

THE RISE OF ROMANESQUE SCULPTURE

THE question of the origin of Romanesque sculpture, raised by M. Mâle in a recent and brilliant article,¹ is a problem that is at once obscure, important, and dramatic. Until the year 1100, or very shortly before, there existed in Europe little sculpture worthy of the name. A few crude attempts to represent iconographical subjects in stone had been made, especially in France and Italy, and sculpture in bronze had been carried to the level of a high art in Italy and Germany. Ivory-carvings apparently continued to be produced according to a highly developed and unbroken tradition reaching back to antiquity. But there was no sculpture in stone comparable in artistic value to the ivory-carvings, nor to the architecture that was now growing up throughout the length and breadth of Europe.

Then, suddenly, in the twelfth century there appears sculpture of great excellence especially in France and in Italy. The new art naturally divides itself into a number of local schools, for the most part clearly enough marked by geographical boundaries. In France there is, first in importance but not in date, the school of the royal domain centering about Paris and developing rapidly into Gothic. In the South-west appeared the school of Languedoc, of which the chief monuments are at Moissac and Toulouse. In the South-east the school of Provence produced the façades of Arles and St.-Gilles. In the East, the school of Burgundy, which is believed to have drawn its inspiration from the destroyed abbey of Cluny, has left important monuments at Charlieu, Vézelay, and Autun. In Auvergne there matured a fifth school, of minor historical importance, but which reached a notable level of artistic attainment at Notre-Dame-du-Port of Clermont-Ferrand. Finally in Saintonge and Poitou arose a sixth school. In Italy also there are almost as many local schools as provinces, but in the present connection there is only one which need concern us, that of Lombardy, of which the centre was not

¹ 'L'architecture et la sculpture en Lombardie à l'époque romane,' *Gaz. B.-A.* XIV, 1918, p. 35.

in Lombardy at all, but rather in Emilia at Modena and in the adjacent cities of Piacenza, Ferrara, even Verona.

The problems offered to archaeology by these various schools of



FIGURE 1.—SCULPTURES OF ST. DENIS.
From Montfaucon.

sculpture are so bewildering that they have seemed almost insuperable. There is an embarrassment in the very wealth of material. Countless monuments, often of great beauty, exist throughout Europe unphotographed, unpublished, and even unrecorded. A superficial examination of the field is sufficient to reveal the fact that all the schools are inter-related. Resemblances and analogies exist which are too striking

and too persistent to be attributed to chance. Yet to disentangle the threads of this complex snarl is a task of the utmost difficulty, beset with complications and chances for error on all sides.

It is only in recent years that one important thread has been pulled out. French archaeologists have discovered in St.-Denis a focal point for the history of mediaeval sculpture. The portals executed by Suger between 1140 and 1144 perished in the Revolution and the destructive restoration of the nineteenth century. But the inaccurate drawings of Montfaucon (Fig. 1) and some fragments of the original work that still survive in the central portal are sufficient to prove that the sculptures of St.-Denis were derived from Languedoc. It is going too far to say that they were the work of a Languedoc artist, for there exist in the



FIGURE 2.—THE PORCH: MOISSAC.

St.-Denis sculptures features which cannot be accounted for in Languedoc. Nevertheless, the crossed legs, the draperies with parallel incised lines, the elongated proportions, and numerous other details are clear evidence not only of strong, but of dominating Languedoc influence. It is even possible to conjecture that the sculptors of St.-Denis drew their inspiration from one particular monument in Languedoc—Beaulieu; and Beaulieu in turn is only a debased copy of the porch at Moissac (Fig. 2) made by an inferior sculptor. It is equally clear, on the other hand, that from St.-Denis (Fig. 1) are derived the western portal of Chartres



FIGURE 3.—JAMB SCULPTURES OF WESTERN PORTAL: CHARTRES.



FIGURE 4.—WEST PORTAL OF CATHEDRAL: SENLIS.

(Fig. 3), the southern porch at Le Mans, the great doorway at Senlis (Fig. 4), and, in fact, all Gothic sculpture. Among the confused cross currents and conflicting tendencies in the history of Romanesque art, this principal line of development therefore stands forth clear and unchallenged; Moissac porch (Fig. 2), Beaulieu, St.-Denis (Fig. 1), Chartres (Fig. 3).

It is natural to try to follow the thread thus far disentangled

further back, and seek its origin. The sculptures of the porch of Moissac (Fig. 2) must have been executed long enough before 1140 to allow for the execution of the portal at Beaulieu before Chartres (Fig. 3) was begun in that year. On the other hand, they must be later than 1135, since they are contemporary with the portrait of the abbot Roger. The inscription of this portrait qualifies the abbot with the title of *Beatus*, which proves that he appears not as a donor, but as a saint, and that therefore

the sculpture was executed not by him, but after his death which is usually placed in 1135. It is evident that the art of sculpture must have advanced with a rapidity that is little short of astounding during the five years 1135-1140.

When, however, we seek the origin of the porch sculptures at Moissac, we are confronted with difficulties that have not yet been solved. Notwithstanding the acknowledged importance of the school of Languedoc, its history is shrouded in obscurity, and its chronology to the highest degree uncertain. The sculptures of the cloister of Moissac (Fig. 5) are dated 1100 by an inscription. Between these sculptures (Fig. 5) and those of the porch (Fig. 6), there lies a gulf which is only very incompletely



FIGURE 5.—CLOISTER: MOISSAC.

filled by the fragments at St.-Sernin and in the museum of Toulouse. Back of the cloister of Moissac we cannot go. The art appears here suddenly, without preparation, unconnected with anything that is known of earlier date in this or any other region. It proceeds jerkily and unevenly, with many gaps and incomprehensible breaks, to the porch at Moissac, then it develops with phenomenal rapidity to the triumphs of St.-Denis and Chartres.

Up to the present, therefore, archaeology has been unable to account for the extraordinary development which took place in the

school of Languedoc between 1100 and 1135. The elongation of the figures, the introduction of movement, the transparent draperies, the feeling for line that characterize the later works of the school and form its elements of vitality are lacking in the earlier works.

Were they discovered by the sculptors of Languedoc? There is little in the monuments that have come down to us, at least so far as they are known to me, to suggest that such was the case. The development of the school, on the contrary, shows a sharp break such as might be brought about by the introduction of foreign influence. Something little short of a revolution took place after the execution of the sculptures of the ambulatory of St.-Sernin and the Moissac



FIGURE 6.—PORCH: MOISSAC.

cloister and before the creation of those of the south porch of St.-Sernin.

The suspicion arises that this foreign influence may have come from Burgundy. The close relationship of the sculptures of Burgundy and Languedoc is, I believe, not open to question. The elongated proportions, the spread-apart knees of the seated

figures, the treatment of the folds of the draperies, are only a few of the many striking analogies. It is, however, of course equally possible that Burgundy may have derived from Languedoc. The matter can only be settled when the chronology of the two schools is explored in detail. Uncertain as is that of Languedoc, the history of the Burgundian school is involved in even greater obscurity. The portal of Autun, which dates from 1132 (Fig. 7), is contemporary with, or even earlier than, the porch sculptures at Moissac (Fig. 2). It is therefore quite possible that the porch



FIGURE 7.—THE TYMPANUM: AUTUN.

of Moissac may have been influenced by Autun. It is, moreover, certain that the Burgundian school of sculpture had been formed much prior to the execution of the portal of Autun. The inner portal of Charlieu, which seems to be clearly part of the church dedicated in 1094, shows that at the end of the eleventh century Burgundian sculpture already possessed several features we generally associate with the school of Languedoc.¹ It must, moreover, be remembered that Cluny was in Burgundy and that

¹ The elongation of the figures and the feeling for line were ultimately derived from Byzantine ivory-carvings. Other important characteristics seem to have been taken from Benedictine ivory-carvings (Fig 8). Unless, indeed, it should turn out, as may not improbably be the case, that the ivory-carvings are derived from the sculptures and hence misdated from one to three centuries.

Cluny was a powerful influence in transmitting artistic ideals. It is true that the attempt to find in Burgundy and the abbey of Cluny the great centre of Romanesque art has failed. Cluny sucked in more often than she gave out. But on the other hand, it would be a gross exaggeration to say that she never gave out, and it is an indubitable fact that artistic influences were transmitted by Cluniac monks. The narthex of Tournus, to cite an obvious example, is identical in style with certain Cluniac churches in Lombardy (such as Fontanella), and must have been executed by Lombard workmen introduced under the influence of Cluny. It is probable that the influence of Cluny was not absent in the sculptures of the Cluniac abbey of Moissac (Fig. 2).

Nor are other indications lacking that the school of Burgundy originated at an earlier date and exerted a more powerful influence than is generally supposed.

There is a striking analogy between the sculptures of Calvenzano (Fig. 9), a Cluniac priory near Milan, and those of the great priory of Vézelay (Fig. 10). In each case the archi-volt is divided into a number of bas-reliefs by radiating divisions. The unusual delicacy of the technique, the scheme of



FIGURE 8.—BENEDICTINE IVORY CARVING:
J. P. MORGAN COLLECTION, METROPOLITAN
MUSEUM.

composition, numerous resemblances of detail prove the close relationship of the two portals. The reliefs of Calvenzano, however, are not, as might be at first supposed, derived from Vézelay. The sculptor of Calvenzano worked also at Pontida upon the tomb of S. Alberto, who died in 1095. This, and the architectural details, make it clear that the sculptures of Calvenzano date from the early years of the twelfth century. The sculptures of Vézelay, on the other hand, are generally believed to be not earlier than 1132. Calvenzano, therefore, appears to be earlier than Vézelay, and that such is indeed the case is confirmed by a study of the



FIGURE 9.—WESTERN PORTAL: CALVENZANO.

style. The sculptures of Calvenzano lack the attenuation which is so striking a characteristic of those of Vézelay and which was introduced into Romanesque art during the third decade of the twelfth century. Although very fine, the Calvenzano sculptures are in drawing obviously more archaic. Are we therefore to conclude that Vézelay was derived from Calvenzano? I think not. It is far more probable that both are derived from some common original lost, or at least unknown to me, and that the original was in Burgundy and possibly at Cluny.

This same motive of the radiating voussoirs was destined to undergo a singular evolution. At Civray (Fig. 11) it is repeated with developments. The figures are placed in even more exaggeratedly inclined and horizontal positions, and certain ones show

distinct elongation. From such an archivolt as this it would be a short step to omit the radiating divisions, and the result would be voussoir sculptures. These indeed appear at Notre-Dame-de-la-Couldre, Parthenay (Vienne), at Civray (Fig. 11), at the outer



FIGURE 10.—PORTAL OF NARTHEX: VÉZELAY.

portal at Vézelay, and at St.-Denis, and form, indeed, one of the several features of the epoch-making portal at St.-Denis which do not seem to have been derived from Languedoc.

Such, it seems to me, are the most important threads that can be traced through in the vast network of French Romanesque

sculpture. There is a seductive danger in attempting to reduce so broad a subject to simple terms. The plain fact is that the matter is complex, that the monuments and documents upon which any synthetic history must be founded are not available, and that perhaps the most significant ones have perished without leaving any trace. While giving great monuments like Moissac and St.-Denis their full importance and seizing with eagerness any threads of development we can lay our hands upon, we must not forget that we are touching only a very small corner of the field.



FIGURE 11.—THE PORTAL: CIVRAY.

Exceedingly much still remains obscure. Whole schools of French sculpture, like that of Poitou are still unknown. Thousands of influences and cross influences radiate back and forth and in all directions. The Middle Ages were essentially decentralized. It is a fundamental misconception of their character to suppose that there was any one focus from which all influences radiated. There were on the contrary many centres, and each was constantly influencing the other.

In Lombardy the general outlines of the development of sculpture are clearer. There is no doubt that during the great part of the twelfth century Lombard sculptors fell under the influence now of one, now of the other of the great schools of

France. This fact, to which I believe I was the first to call attention,¹ seems to be now generally admitted. From the third decade to the end of the twelfth century the Lombard artists showed themselves conscious of the extraordinary progress which was being made north of the Alps. Are we to conclude from this that the Lombard school was entirely devoid of originality, merely a weak echo of ultramontane models? After a study of the evidence I came in my *Lombard Architecture* to a negative conclusion. I found, first of all, that in the first two decades of the twelfth century Lombard sculpture, especially in the hands of the master Guglielmo, was by no means a slavish imitation of foreign models, but that it actually anticipated important later developments in France, and I found many indications that even in the last part of the twelfth century, while undoubtedly strongly influenced by the North, it also exerted an influence in return.

These conclusions have been questioned by M. Mâle² who

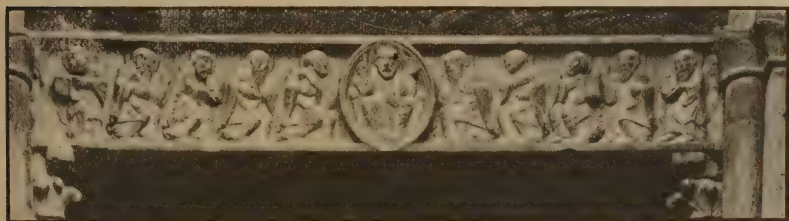


FIGURE 12.—ARCHITRAVE OF PORTAL, NORTH TRANSEPT: CREMONA.

seeks to demonstrate that Lombard sculpture was the work of masters of Languedoc and exerted no influence north of the Alps. He accepts my observation that Nicolò was influenced by the art of Languedoc, though without mention of my name. He reiterates the obvious truth, questioned by no one, that Benedetto was influenced by Provence, Languedoc, and the Ile-de-France. In regard to all this there is likely to be little dispute. Future observers will doubtless find much additional evidence leading to the same conclusion. They will, for example, observe the very close analogy between the lintel of the northern transept at Cremona (Fig. 12) and that of St.-Sernin of Toulouse (compare also Fig. 2). They will amuse themselves in tracing the diffusion of certain mannerisms such as the curious cap with gores like a

¹ *Lombard Architecture*, vol. I, p. 271.

² *Op. cit.*

pudding-mould which appears at St.-Sernin of Toulouse, in other monuments of Languedoc, at St.-Denis (Fig. 1) and is rapidly copied at Vézelay, in the southern portal of Bourges, in ivory-carvings (Fig. 13), that becomes characteristic of the art of Benedetto, and from him seems to have found its way into Spain,



FIGURE 13.—IVORY CARVING: MORGAN COLLECTION.

and to have been adopted by the sculptors of the *cenas* at Modena and Beaucaire. I venture to observe however, that there is a certain danger in arguing that all sculptures which show analogies with French sculptures are necessarily derived from them. Until the chronology is determined, no intelligent discussion of cross influences is possible, and the chronology of the twelfth century sculpture in France is still in a chaotic condition. Thus it is admitted by everyone that the sculptures of Arles present analogies with those of Benedetto. This resemblance has been used by M. Michel writ-

ing in his *Histoire de l'Art* to show that the Provençal sculptors were influenced by Lombardy, and is now used by M. Mâle to show that Lombardy was influenced by Provence. Obviously the matter can only be settled when the dates of the Provençal

portals are determined by independent evidence, as those of Benedetto have already been.¹

In general, however, M. Mâle is in essential agreement with me in maintaining that Italy from 1120 to 1200 owed much to France. The new and striking part of his thesis, and the part from which I dissent, is the assertion that the Lombard school was entirely lacking in originality. In order to sustain this point he is forced to suppose that Guglielmo worked, not in the early years of the twelfth century, but some five decades later. It is a daring assertion which is not only entirely unsupported by documentary evidence but even in direct contradiction to known facts.

The approximate, if not precise, dates of Guglielmo are indeed among the few things in the whole field of twelfth century sculpture which may be considered as determined beyond the possibility of reasonable doubt. We know, first of all, that Guglielmo worked upon the cathedral of Modena which was begun in 1099 and consecrated in 1106. We know also that this same Guglielmo worked at Cremona on the cathedral begun in 1107 and destroyed in 1117. That M. Mâle actually goes so far as to question that the sculptures of Cremona are by Guglielmo shows to what an extent his thesis—seductive, I admit—necessitates the shutting of one's eyes to obvious truth. No unbiased person could study the representations of Enoch and Elijah at Modena (Fig. 14) and Cremona² without being convinced that they are by the same hand.

¹ Similarly, M. Mâle notes a close and striking analogy between the *cena* at Modena and that at Beaucaire, between the capitals of the Modena museum and the Beaucaire capitals. This is in his eyes a sufficient proof that the Modena sculptures are copies of those at Beaucaire. Yet even he admits that the quality of the work at Modena is much finer than that at Beaucaire. There is, indeed, internal evidence that the Modena relief may be in fact the original, the Beaucaire sculpture, the copy. The original artist was obviously a pupil of Benedetto, working under his strong influence, and Benedetto was a Lombard, not a Languedocien. Furthermore, in both reliefs John is placed at the left of Christ, Judas at his right. This reversal of the usual law of hierarchial precedence is distinctly a Latin and a Lombard characteristic. It is entirely possible, and even, I think, probable, that when the chronology of the Beaucaire sculptures is determined, it will be found that instead of being a prototype, they are a derivative of Modena.

² I am disappointed that owing to war conditions I am unable to reproduce the inedited Enoch and Elijah of Cremona, but hope to obtain a photograph for a continuation of this article to be published in the *Gazette des Beaux-Arts*. This sculpture proves beyond doubt that Guglielmo worked at Cremona.

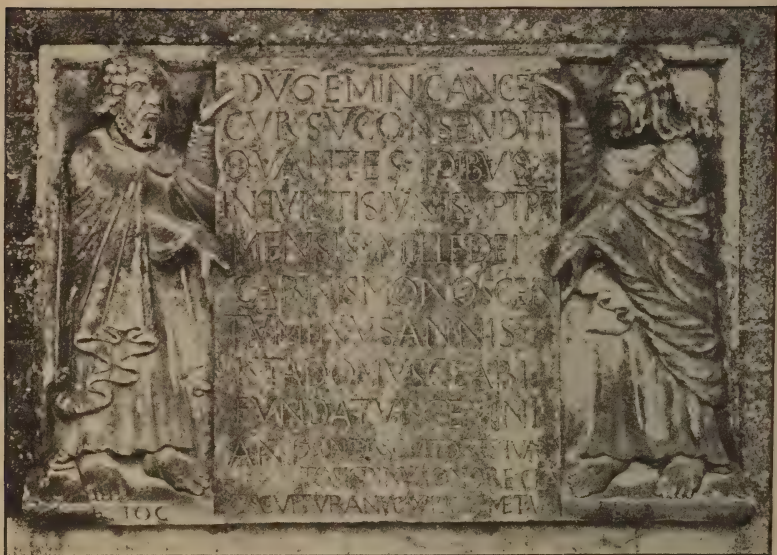


FIGURE 14.—ENOCH AND ELIJAH, WITH SIGNATURE OF GUGLIELMO: MODENA.

These two inscriptions alone suffice to fix the activity of Guglielmo in the first two decades of the twelfth century. It is, however, far from being all the evidence. The style of Guglielmo was imitated throughout northern Italy from the second decade of the twelfth century. The ambo sculptures of Quarantoli, which date from 1114, were executed under the direct inspiration of his style. As much may be said of the ambo at Bellagio which evidently is contemporary. One of Guglielmo's assistants at Modena worked on the cathedral of Borgo San Donnino which was consecrated in 1106.¹ Another worked on the portal of S. Celso at Milan which is proved by the character of the architecture to have been built *ca* 1125. Other imitators of Guglielmo were busy at Nonantola soon after 1121. Guglielmo's pupil, Nicolò, was active at Sagra San Michele as early as 1120 and has left us dated works

¹ M. Mâle takes an untenable position in assigning the Porta della Pescheria at Modena to the end of the twelfth century, or to the thirteenth century. Not only does he again disregard documentary evidence, and ignore the clearly archaic style of the sculptures and of the architectural accessories, but in this case he collides with an even more obvious proof of the truth. The inscriptions are in a type of character not used in Lombardy after the early years of the twelfth century. See the excellent study of Giulio Bertoni, *Atlante storico-paleografico del duomo di Modena*. Modena, Orlandini, 1909, 4°.

of 1122 at Piacenza. The works of the same artist at Ferrara date from 1135, those at S. Zeno of Verona from 1138 and those of the cathedral of Verona from 1139. The cathedral of Parma, of which the earliest capitals show the influence of Guglielmo, was begun *ca.* 1117. The influence of Guglielmo is shown by a group of sculptors who worked at Isola S. Giulio *ca.* 1120, and who have left us at Aosta works dated 1133 by an unequivocal inscription. The sculptor who worked at Sasso *ca.* 1125 derived his art from Guglielmo as did also that other one who executed the sculptures of Cavana *ca.* 1130. The north and south portals of Borgo San Donnino show the art of Nicolò imitated as early as *ca.* 1135, as do also the sculptures of S. Illaria di Baganza *ca.* 1140. The dates of any one of these monuments might be open to suspicion taken by itself, although the documentary evidence for several is so strong it could not readily be set aside. But the cumulative series is overwhelming. It is not possible that the documents, if misleading, could dovetail together to form a series showing so smooth and logical a development. The date of the sculptures is moreover entirely confirmed by the character of the architectural accessories. If M. Mâle were more familiar with the Lombard monuments, he certainly would not be so rash as to assign the activity of Guglielmo to the second half of the twelfth century.

Moreover, the very style of the sculptures of Guglielmo confirms the view that they must date from early in the twelfth century. A comparison of one of Guglielmo's prophets at Modena (Fig. 15) with the sculptures of the cloister (Fig. 5) at Moissac, which date from 1100 and with those of the porch at Moissac (Fig. 6) which date from 1135-1140, will suffice to convince that Guglielmo's work resembles the former much more closely than the latter. If M. Mâle had tried to show that the art of Guglielmo is derived from the cloisters of Moissac, we might have been



FIGURE 15.—ISAIAS: WESTERN PORTAL, MODENA.

tempted to follow him. I have already debated whether such might not be the case. But when he supposes that Guglielmo knew St.-Denis and Chartres, he is surely far wide of the mark. No sculptor, however unskilful—and anyone who knows the work of Guglielmo realizes that whatever his shortcomings he was an artist of power—in trying to imitate the elongated, graceful, ethereal, delicate work of St.-Denis (Fig. 1) could have produced the stocky, heavy, short, solid figures of Modena (Fig. 14). It is evident at half a glance that at Senlis (Fig. 4) we have a classic, at Modena, an archaic, art. Surely the distance of forty years is none too little to place between the production of the primitive sculptures of Modena and the perfected work of the Ile-de-France.



FIGURE 16.—ISAI-
AH BY GUGLIELMO:
CREMONA.

It is none the less certain that analogies exist between the work of Guglielmo and that of much later date in the Ile-de-France. The jamb sculptures of Cremona (Fig. 16) are the earliest known example of this motive, destined to become so characteristic of French art. M. Mâle has accurately recognized a striking analogy in the treatment of certain draperies in the sculptures of Modena, St.-Denis, and Senlis. A capital in the museum of Soissons (Figs. 17, 18) and another in the museum of Beauvais show curls which are precisely like those of Guglielmo (Figs. 14, 16). Lombard influence in some way or other touched the Ile-de-France. Suger himself tells us that he called together his glass-workers "from many different nations." There can be little doubt that he exercised an equal eclecticism in choosing his sculptors.

The man who planned to transport marble columns from Rome would not hesitate to appropriate a good idea for his sculpture wherever he could find it. And while Languedoc undoubtedly furnished the chief inspiration for the new art created at St.-Denis, certain Lombard and possibly also Burgundian features were incorporated.

Among Romanesque jamb sculptures there is a considerable group which, however beautiful from an aesthetic standpoint, may be eliminated from our present study because they are later in



FIGURE 17.—CAPITAL IN MUSEUM: SOISSONS.

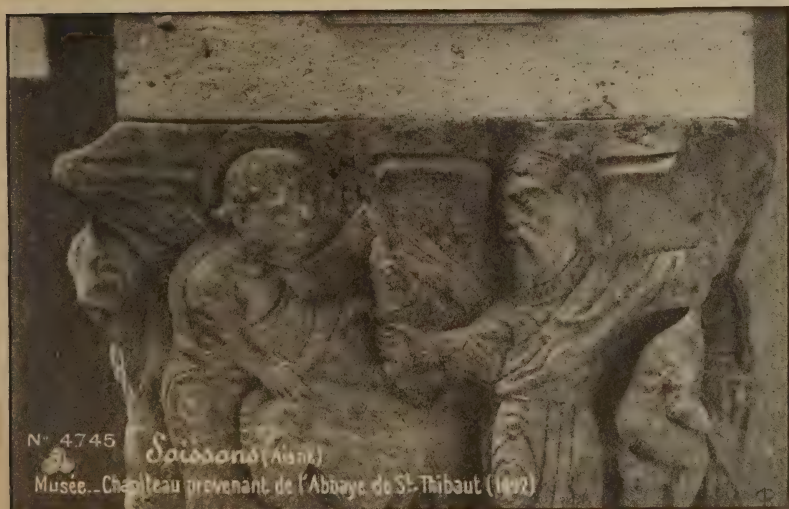


FIGURE 18.—CAPITAL IN MUSEUM: SOISSONS.

date than the portal of St.-Denis and consequently could not have served as inspiration for its composition. Such are the noble portal of Valcabrière—perhaps the grandest achievement of Romanesque sculpture in southern France—and the caryatid column of St.-Bertrand-de-Comminges. Such too is the figure



FIGURE 19.—SCULPTURES FROM THE CHAPTER-HOUSE OF ST.-ETIENNE: MUSEUM, TOULOUSE.

engaged on a column in the cloister of Lavandieu, and the figures on the façades of Arles and St.-Gilles, and in the porch of Loches. Later than St.-Denis in all probability is also the holy-water basin of Chalmières and certainly the cloister figures of Arles, these both strangely reminiscent of the art of Nicolò. We search southern France in vain for a single true example of jamb sculptures earlier than those of St.-Denis.¹ The closest approach to a prototype is

to be found in the sculptures of the Daurade and of St.-Étienne of Toulouse (Fig. 19). The analogy here, however, is only partial. The figures are miniature instead of being life-size. At St.-Étienne they were also, and this is an important point, *cut into* the jamb from the angle, instead of being *applied*

¹ I reserve judgment on the sculptures in the museum of Le Puy and the restored portal of Bourg-Argental, concerning which I have insufficient information.

on its face. Now the jamb sculptures of Cremona (Fig. 16) are nearly life-size and are applied on the jambs. In both these particulars they resemble the sculptures of Chartres (Fig. 3) where those of St.-Étienne of Toulouse (Fig. 19) differ. St.-Étienne of Toulouse could have been derived from Cremona and Chartres could have been derived from Cremona, but it is impossible Chartres should have been derived from St.-Étienne of Toulouse. Nor is Cremona the only example in Lombardy of sculptures applied to the face of jambs. A Lombard statuette (Fig. 20) which has recently found its way to the Metropolitan Museum in New York¹ shows that this characteristic, so essential in the sculptures of the Ile-de-France and unknown in Languedoc, was traditional in Lombardy.

The question naturally arises, whence did Guglielmo acquire this idea of jamb sculptures? I am tempted to answer that he may have found his inspiration in the great figures in relief on the piers of the cloisters of Moissac (Fig. 5). It is certain that this motive of the Languedoc school enjoyed great popularity. Figures engaged on the wall appear in the porch of Moissac (Fig. 6). It was but a short step to the figures of the façades of Arles and St.-Trophime, in the wall of St.-Sernin, in the cloister of Tournus, and in the porch at Loches. Two figures coming apparently from the piers of a cloister and now in the collection of Mrs. Gardner at Boston are significant in this connection (Fig. 21). They have at their feet monsters in which it is perhaps permitted to see the prototype of the Gothic socle.



FIGURE 20.—LOMBARD STATUETTE: METROPOLITAN MUSEUM.

¹ I shall return later to this important monument.

The cloisters at Moissac might have been the inspiration both of the Cremona jamb sculptures and of Mrs. Gardner's reliefs. M. Mâle has noted a close analogy between the sculptures of St.-Étienne of Toulouse and those by Nicolò in the cathedrals of Ferrara

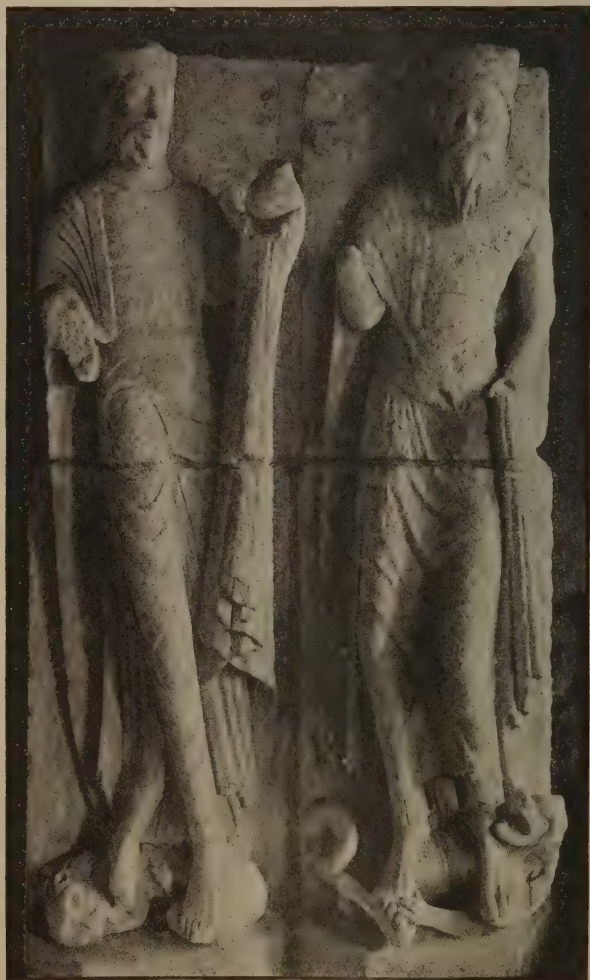


FIGURE 21.—COLLECTION OF MRS. GARDNER: BOSTON.

(Fig. 22) and Verona. The existence of this analogy is for M. Mâle a sufficient proof that the figures of Nicolò are derived from those of St.-Étienne of Toulouse. Is it so sure, however, that the

case may not have been the other way about? It is indeed certain that Nicolò fell under the strong influence of the sculptors of Languedoc, but it is also certain that the art of Languedoc was powerfully influenced by Lombardy. In this very church of St.-Étienne at Toulouse there are rib vaults proclaiming in trumpet tones the dominant influence of Northern Italy. It is certain that Nicolò,¹ and probably other sculptors of Lombardy, made the pilgrimage to St. James at Compostela. On this journey they must necessarily have passed through Languedoc with the art of which they consequently became acquainted. But they did more. They left examples of their own work to influence the style of Languedoc. Eloquent testimony of this is found in the rib vaults of Fréjus, Marseilles, St.-Gillès, Moissac, St.-Étienne of Toulouse, St.-Eutrope of Gaintes (1096), and Ste.-Croix of Quimperlé (1083). It is found also in the series

¹ The sculptures of the pilgrimage church at Ripoll are recognized by Michel as being by his school (*Histoire de l'Art*, II, 160). They are indeed executed by assistants under his direction.



FIGURE 22.—SCULPTURED JAMB BY NICOLÒ: FERRARA.

of churches on the road to Compostela in which there worked side by side sculptors from Northern Italy, from Burgundy, from Languedoc, and from the Ile-de-France.¹ The pilgrimage to Compostela formed a sort of melting-pot in which artists from all over Europe met and exchanged their ideas. The sculptures of St.-Étienne of Toulouse (Fig. 19) are said to have come from the chapter house, but I do not know how they were employed in the building. Since they were coupled, two and two, they must have been arranged like the sculptures on the piers of the Arles cloister and so be in no true sense jamb sculptures. They were inspired by the art of Nicolò.

Indeed, Lombard influence touched at more than one point the art of Languedoc. The sculptor who executed the Joseph in the Moissac *Flight into Egypt* certainly knew the work of Guglielmo. It might be supposed that he derived this knowledge by way of Spain, which exerted so potent an influence upon the Moissac cloisters, were it not for the fact that the rib vault of the Moissac porch makes it certain that the Moissac artists knew Lombardy at first-hand. A capital of Aniane (Herault)² shows hair treated with the same convention familiar in the work of Guglielmo, but the rib vault of the neighbouring church of Saint-Guilhem-le-Désert as well as the architectural character of the apse of that church³ make it evident that the builders of this region were intimately acquainted with the work of Lombardy. When one observes, therefore, that the beard of the Saint Peter at Souillac shows analogy to certain of Guglielmo's beards, one suspects that far from being a prototype it also may chance to be a derivative.

It is, however, not with Languedoc that the work of Guglielmo shows the closest relationship. One is astonished that M. Mâle apparently did not perceive its much closer analogy with the sculpture of Poitou, the more so since I had already called attention to it.⁴ This similarity is most marked in the sculptures of Notre-Dame-la-Grande of Poitiers (Fig. 23). The drapery of certain figures, for example that of the angel of the *Annunciation*, is completely Lombard, as is also the figure of Eve in the *Temptation*. Guglielmo-like also are the curls of the prophet farthest to the left in the north section of the façade, the face of the other

¹ This has been recognized and proved by Miss King and Michel.

² Michel, *Histoire de l'Art*, vol. I, part 2, p. 630.

³ Porter, *Lombard Architecture*, vol. IV, pl. 117.

⁴ *Lombard Architecture*, vol. IV, pl. 145.

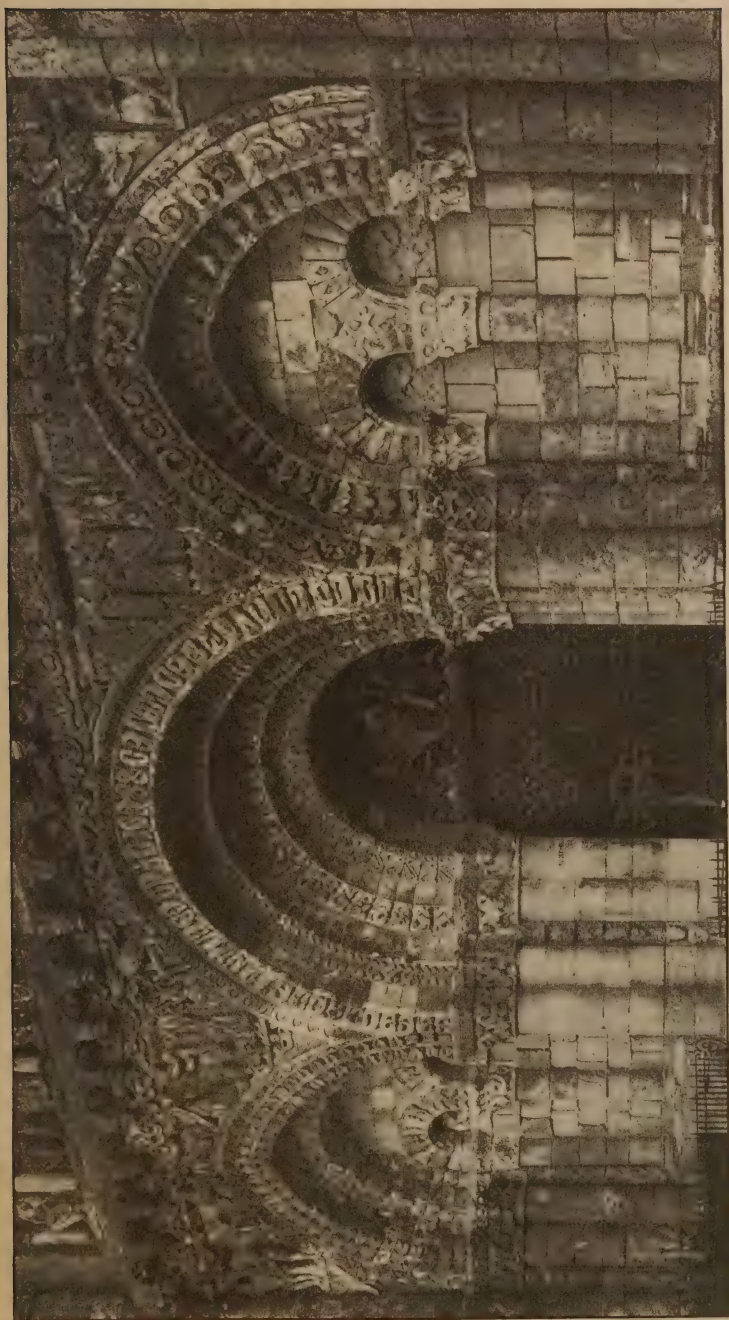


FIGURE 23.—NOTRE-DAME-LA-GRANDE: POITIERS.

prophet, and the wings of the angel of the *Annunciation*. Even the inscriptions on the scrolls of the prophets are the same as those on the scrolls of Guglielmo's prophets at Cremona.¹ At Parthenay-le-Vieux (Deux-Sèvres) (Fig. 24) the fluttering draperies recall



FIGURE 24.—NORTH PORTAL, WEST FAÇADE: PARTHENAY-LE-VIEUX.

¹ These inscriptions are quotations from a pseudo-Augustine sermon which enjoyed great popularity in France and evidently also in Italy. From this sermon developed the miracle play of the prophets which possibly also exerted its influence upon the composition of the sculptures of Notre-Dame-la-Grande. One must, however, be on one's guard against ascribing too much to these miracle plays. Their authors as a rule followed traditions and conceptions which were the common thought of Christendom, and an analogy between a group of sculptures and a drama does not necessarily prove that the former was the inspiration of the latter. Both may well spring from a common tradition, which in this case was undoubtedly the current interpretation of the popular pseudo-Augustine sermon. The inscriptions on the scrolls are quoted not from the drama but from the sermon.

Nicolò's *Theodoric* at S. Zeno of Verona.¹ At St.-Jouin-de-Marne, the curls of the beard and the draperies are distinctly Guglielmoesque. The sculptor who executed the great figures inlaid in the wall of Loches had surely seen Guglielmo's work at Modena as well as St.-Sernin and St.-Denis. Ile-Bouchard, which lies in the valley of the Indre not far from Poitou, is, as I have already pointed out,² obviously Guglielmoesque. Certain sculptures even of the cathedral of Angoulême (strongly Languedoc in character as this monument generally is) show Lombard influence. Thus one fragment published by M. Michel³ representing horsemen in the gates of a city, is closely analogous to Lombard work. It recalls at once the sculptures of Pontida and Benedetto's frieze at Borgo San Donnino. That it was in fact inspired by Lombardy is sufficiently shown by the strongly Lombardic foliage above. Indeed, Lombard influence is apparent throughout this region, not only in the sculpture, but in the architecture as well, as even French writers have recognized.⁴ The façade of St.-Jouin-de-Marne (the sculptures of which we have already seen are strongly Lombardic) was inspired by that of S. Michele of Pavia.⁵ In both we find the same division by unmeaning shafts and the insertion of rambling bits of sculpture in projecting relief. Lombard influence is evident in the sculptures of both periods at Selles-sur-Cher. At Saintes there is a rib vault. It is clear that the sculpture of Poitou instead of being, as is generally supposed, under the exclusive influence of Languedoc, was much more under the influence of Lombardy.

In this connection it is interesting to return to the statuette at the Metropolitan (Fig. 20). It is a small figure engaged upon a round jamb, and clearly belongs to the school of Guglielmo da Modena, but in certain details it is analogous to works in Poitou.

¹ Sagra S. Michele, where Nicolò worked *ca.* 1120, had close relations with Maillezais (Deux-Sèvres) as is proved by the chronicle of the latter.

² *Lombard Architecture*, vol. IV, pl. 145.

³ *Histoire de l'Art*, vol. I, part 2, p. 653.

⁴ See for example, André Michel, *Histoire de l'Art*, vol. I, part 2, p. 647. "Dans les Landes, comme à Hagetmau, les formes des chapiteaux aux lions affrontés, témoignent d'influences lombardes assez actives dans cette région jusqu'à une époque avancée."

⁵ These shafts became characteristic of the region, being found at Vouvant (Deux-Sèvres) and in numerous other churches.

I am satisfied that it was executed by one of the followers of Guglielmo who was active at Isola San Giulio *ca.* 1120, and at Aosta in 1133. The fact that it is of white marble leads me to conjecture that it may have formed part of the portal of S. Ponzo Canavese, since in that locality there was an abundance of this material.¹ However that may be, there can be little doubt that the Metropolitan statuette was executed somewhat later than the cloister of Aosta, probably *ca.* 1140. It is likely that the sculptor in the meanwhile had made a journey to Poitou. This is indicated not only by the style but by the significant fact that the figure represents St. Hilaire, doubtless the patron of Poitiers, although he is clothed as a monk rather than as a bishop.² This important fragment derives from the art of Nicolò in its small dimensions, but, as has been seen, from that of Guglielmo in that it is applied, not incised. The work of an Italian sculptor who sprang from a union of the influence of Milan and of Guglielmo, who knew the work of Nicolò, and who made a journey to Poitou, it is of singular significance for the study of the complex relationships of French and Italian sculptors in the Romanesque period. Whether Poitou may not have been the connecting link between Lombardy and the Ile-de-France is a point which deserves careful investigation.

Whatever future researches may show in this regard, it is certain that the art of Lombardy cannot be ignored among the form-

¹ The tradition that this fragment comes from the Veneto is probably based upon its obvious relationship with the works of Nicolò at Ferrara and Verona.

² On the scroll is this inscription:

SCS HILAR
 SED HEC DEBIT
 QUE IUXT' PLEBIS SI
 CULARIQUE SERUI
 TO P[ER]TINERE UIDE
 BANTUR DE TERRI
 TORIO QUOD MILI
 TES CIRCUIERAT
 CUM OMIBUS IU
 STIS OBSEQUI
 IS SCO UIRO DE
 DIT

ative factors in the rise of Romanesque sculpture. If at times it was deeply influenced by the various schools of France, it exerted an important influence in return, and among other things contributed to France the vital motive of jamb sculptures.

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A COPY AFTER SCULPTURES OF NOTRE-DAME-
DE-PARIS

A SMALL ivory triptych (Fig. 1), recently acquired by the Rhode Island School of Design from the George A. Hearn collection,¹ affords unusual interest because of its relationship with some of the most splendid sculptures of the Middle Ages, sculptures of Notre-Dame-de-Paris.

A horizontal division breaks each leaf of the triptych into two fields. Four of the six compositions thus made possible are connected with the story of the Virgin. The other two are scenes from the life of Christ.

The subject of the lower register of the central panel is the Resurrection of the body of the Virgin. It represents the moment when Christ has come to fulfill the promise made His mother before her dormition. In the Golden Legend we read: "And the Saviour spake and said: 'Arise up, haste thee, my culver or dove, tabernacle of glory, vessel of life, temple celestial, and like as thou never feltest conceiving by none atouchment, thou shalt not suffer in the sepulchre no corruption of body.' And anon the soul came again to the body of Mary . . ."² Two angels at the head and foot of the tomb lift the cloth which supports the Virgin's body, while Christ stands behind in the attitude of blessing and five apostles quietly witness the event.

Above this scene is what *should* be the Coronation of the Virgin. The crowned Christ sits with His right hand lifted in blessing. In His left hand He offers a scepter which bursts into bloom. Perhaps we have in this scepter, which is to indicate the Virgin's new office as queen of heaven, a reference to her royal lineage

¹ *DeLuxe Illustrated Catalogue of the Geo. A. Hearn Collection*, 1918, no. 1002: "Carved ivory devotional triptych: The Dormition of the Virgin—The Virgin lies on the bier in death; above are God the Father and Christ enthroned. Two scenes in each of the wings. 14th century. Height, 5½ in.; width, 8½ in."

² The Golden Legend (Caxton's translation), 'The Assumption,' vol. IV, p. 241.



FIGURE 1.—IVORY TRIPTYCH: PROVIDENCE.

through the tree of Jesse,¹ or to Joseph's rod, which blossomed at the time of the betrothal. At Christ's right sits a crowned figure with hands clasped in adoration; but instead of the sweet face of the Virgin, we see a bearded head! An explanation of this striking incongruity, as well as that presented by the bearded head of one of the candle-bearing angels that kneel at the right and left of the two central figures, will be attempted later.

In the lower registers of the wings of the triptych are, at the left, three seated kings, ancestors of the Virgin; at the right, three seated prophets, who have announced her coming. In the upper divisions of the wings are represented two appearances of Christ. At the left, carrying a cross, He appears to one of the three Marys, while at the right is the *noli me tangere*. In the latter Christ carries a spade, so disguising Himself as the gardener.²

The obvious misunderstanding of subject in the Coronation and the meaningless gesture of Christ as He appears to the holy woman lead one to suspect that the ivory is a poor interpretation of some other work. And indeed we find that its carver employed no common model. The central panel and the lower divisions of the wings are copies of the tympanum sculptures of the Virgin portal of Notre-Dame-de-Paris (Fig. 2). The other two compositions are taken from the bas-reliefs of the choir en-

¹ Isaiah, XI, 1.

² John, XX, 14-17.

closure of the same cathedral (Fig. 3). From these lovely sculptures the unreserved copyist has selected what he could conveniently fit into his somewhat differently shaped fields. Details of the compositions, even to the folds of the drapery, are copied exactly, as far as that can be done while missing the finer beauty and sensitiveness of the model. The resulting copy is like the wrong side of a brocade; the outlines are there, but all the loveliness of color is lost.

What could be more monumental than the unbroken row of haloed heads of Christ and the twelve apostles in the Notre



FIGURE 2.—THE VIRGIN PORTAL: NOTRE DAME.

Dame Resurrection of the Virgin! But aside from the difficulty of carving all of these, they were found impossible in the ivory because of the interference of the cusped arches in the upper part of the field. So only five of the apostles have been used. Two of these, Peter and Paul, are conspicuous at the extremes of the composition. One is at first surprised that instead of the expression of solemn wonder and meditation in the dignified faces of the Paris figures, grief and despair, which would more appropriately accompany the *burial* of the Virgin, are suggested in the wrinkled faces of these five. But this does not necessarily imply incompetence on the part of the copyist. The two works were probably conceived with wholly different ends in view, the cathedral sculpture for a monumental world-wide testimony to the Virgin's glory, the small triptych for personal appeal to the individual. While the one moves the spectator to

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awe and adoration, it is not inappropriate that the appeal of the other should be to pity and grief. The fine sweep of the Madonna's figure could hardly be missed, and it is more successfully copied than other parts of the composition. The angels, too, of the ivory are charming, though they stoop over the Virgin with a childish interest and haste, rather than with the calm, reverential movement of those in the prototype.

In the Coronation the copyist has strayed even further from the meaning and spirit of the model. One wonders how the most mediocre of workmen could have produced such a poor

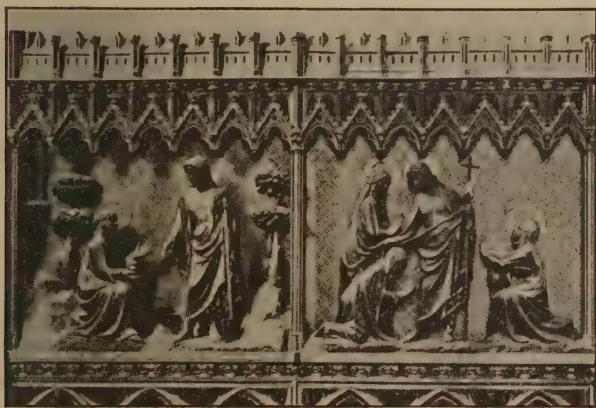


FIGURE 3.—RELIEFS FROM CHOIR: NOTRE DAME.

copy of this loveliest of all coronations. An unusually strong chin characterizes many figures of the tympanum. This is particularly noticeable in the case of the Virgin and the kneeling angel at the left in the Coronation. Can it be that the copyist has misunderstood these as bearded figures? Or perhaps because he had no space for the angel who appears in the apex of the tympanum to crown the Virgin, he thought to avoid the difficulty by substituting God the Father for the Virgin. The docile imitation and lack of imagination otherwise displayed by Gothic ivory carvers give more plausibility to the former explanation.

We must give the author of our ivory, however, a little more credit for originality when we come to consider his treatment of the kings and prophets. Here he has dared to deviate from the composition of his model, even though no deviation was necessitated by the shape of his fields. He has omitted the scroll

from the laps of the kings and used it only with the prophets, of whom it is typical. To keep the symmetrical appearance of the two groups, he has given each prophet a separate scroll, instead of placing one continuous sheet over the three laps. With the removal of their scroll, the disposition of the kings' arms has been slightly changed also, and now they *grasp* rather than *hold* their scepters. The prophets sit at the left in the tympanum and the kings at the right. In the ivory their order is reversed. Since the two scenes above them are reversed also, as regards the order of their prototypes, we may safely assume that the wings have been exchanged in attaching them to the central panel, perhaps because their contours made in that way better joinings, or it may have been simply an error. Since the compositions would look as well one way as the other, such a detail would have been of slight interest to our carver.

Aside from the omission of the trees in the panel of the Notre-Dame choir enclosure, the *noli me tangere* composition has been closely copied. The most apparent difference in the general outline of the group is due to the copyist's disregard of proportion in the figures and his approach to isocephalism. This makes the extended hand of the kneeling Magdalene, for example, reach as high as Christ's shoulder, while in the choir relief it reaches out to touch His lowered hand. In the companion piece to this scene there was room for only two figures, so but one of the three Marys of the choir relief has been copied, and for her model the more upright figure at the right of Christ has been the principal source, though some features, as the bent head, are suggestive of the pendant on the left. This change takes away all significance from the gesture of the Christ. He seems to be archly depositing something into the hands of Mary, while in the original He extends His hand in solemn blessing over the head of the kneeling figure, who bends low in humble worship.

A single glance is sufficient to show how far short of the perfection of the great thirteenth century sculptures¹ the ivory comes. Yet closer inspection reveals some absorption of their grace. The soft folds here and there, as in the headdress of the Mary we have just discussed, the wavy locks of the angels, and

¹ Fortunately, Viollet le Duc's restoration need not be taken into consideration here. His repairs on the tympanum are reported as but slight. Our ivory carver has not been literal enough in his translation of the choir reliefs to make eventual alterations of any significance.

the dignified heads of the kings and prophets, suggest that the copyist was not wholly immune against the glory of his model. But the chief interest of the comparison must remain in the fact that we have here a copy, perhaps as early as the fourteenth century, of some of the Notre-Dame sculptures, an example of the source of subject matter sought by Gothic ivory carvers.

Like much ivory work of the fourteenth and fifteenth centuries, this triptych offers difficulties in regard to its date and particularly the nationality of its author. The fact that Gothic ivory workers were more craftsmen than artists and that copying other works was undoubtedly the rule rather than the exception accounts for these extraordinary difficulties. Closest analogies for our triptych are found in late fourteenth century German and French works. Though lacking sufficient reason for contention of Rhenish origin, we may suggest the comparison of its types of figures with examples of Rhenish wood and ivory sculpture.¹

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¹ W. Josephi, *Die Werke Plastischer Kunst im Germanischen Nationalmuseum, Nürnberg*, nos. 221 and 225. *Connoisseur*, XXX, p. 14.

IPHIGENIA TAURICA 113 AS A DOCUMENT IN THE
HISTORY OF ARCHITECTURE

ὄρα δὲ γ' εἶσω τριγλύφων ὅποι κενὸν
δέμας καθεῖναι.

IN 1761 Winckelmann, in his *Anmerkungen über die Baukunst der Alten*,¹ made use of these lines as evidence for his theory that in very early times the metopes of a Greek temple were left unfilled: "for as Orestes and Pylades are searching for a means of entrance into the temple of Diana Taurica, in order to steal away the statue of the goddess, Pylades proposes to his friend to crawl in within the triglyphs, that is, as I understand it, between them." This conjecture has met the almost universal approval of editors of Euripides; while writers on the history of architecture accept it as an important contribution to the theory of the origin and development of the triglyph frieze. It is not my hope to be able to settle all the difficulties of this vexed passage, but it is, at any rate, time to examine it more closely to see if it really merits the importance that has been so generally accorded it.

In the first place we have no reason to think that Euripides was an archaeologist, deliberately representing on the stage a type of Greek construction which was in his day two or more centuries out of date. Such was certainly not the spirit of the age, as one can readily see by examining the vase paintings of his contemporaries.

In verse 405 of the play the chorus, referring to the temple, uses the words *περικλινας ναούς*. Some editors take this to mean that the building was actually peripteral. If this be final we need look no further, since a peripteral building has a frieze above the columns but none about the cella. Consequently one who penetrated the frieze would still be outside the building, and Winckelmann's interpretation falls to the ground.

It seems more likely, however, that the words just quoted are not to be taken too literally, for they are found in a lyric passage

¹ *Sämmtliche Werke*, ed. Eiselein, 1825, p. 389.

and are not altogether in harmony with verse 96: ἀμφίβληστρο γὰρ τοίχων ὄρᾱς / ὑψηλά, which implies a *templum in antis*.¹ That this temple was made to represent sun-dried brick or wood is unlikely, for with such materials Orestes and Pylades would have found easier and safer means of entrance than by crawling through the frieze.

Assuming that the building was a *templum in antis* and that a triglyph frieze may have extended along its sides as in the Treasury of the Sicyonians in Olympia, it is still unlikely that the proposed point of attack was the side of the building. The principal action throughout the play is centred before the very doors of the temple, probably between them and the altar. Less than half the audience could have seen an opening in the frieze at the side of the building, although it would have been visible to some. But, more important than all else, Euripides was aware of a difficult but possible passage over the beams of the parastade, as is evidenced by *Orestes*, 1369 ff.: Ἀργεῖον ξίφος ἐκ θανάτου πέφενγα / βαρβάρους εὐμάρισιν / κεδρωτὰ παστάδων ὑπὲρ τέραμνα / Δωρικός τε τριγλύφους. That one could get into the attic of a temple is further attested by Pausanias V, 20, 4-5, and it was, in my opinion, through the attic that Pylades proposed to go; but one who passed through the frieze would not be in the attic for, at every point, the frieze lies just below the level of the ceiling.

Should we grant that the opening of which Pylades speaks actually existed in the frieze at the side of the temple, there is nothing in text or context to indicate that it was customary to leave metopes unfilled and the lines cannot be used to prove a general practice. On the other hand, I know of no examples of buildings of this type in Persia, Egypt, New Mexico, or elsewhere in which openings are left between the beams of the ceiling as they rest on the wall. In fact in the Spanish-Indian church of Cochiti Pueblo, New Mexico, the ceiling-beams are bedded in the adobe walls of the two long sides of the building, while in front is a balcony, supported by columns and reproducing in a marvelous way the type of construction that is supposed to have been employed in the primitive Greek megaron-temple and to have given rise to the Doric frieze. Even at this point clay is used to fill the spaces between the beams, and to present an even, finished surface to one who stands below. If the open frieze ap-

¹ Cf. vs. 1159: ἀναξ, ἔχ' αὐτοῦ πόδα σὸν ἐν παραστάσιν.

peared crude and unfinished to the New Mexican, it must have been quite as unsatisfactory to the Greek.

Added to the uncertainties that arise in an attempt to fit Winckelmann's interpretation to the facts of temple construction are even greater uncertainties pertaining to the text. The words are all Greek, it is true, and the lines may be scanned, but otherwise difficulties are everywhere apparent. The manuscripts all give the text as it is printed above, save that Parisinus reads ὦρα for ὄρα; but that the editors are desperate in their attempts to construct a text that will match the accepted interpretation is evidenced by the following emendations: ὄρα δὲ γείσα, Blomfield; ὦρα δὲ γείσων τριγλύφων ὄπου, Elmsley; πείρα δὲ γ' εἶσω, Madvig; Δωρικὰ δὲ γείσα τριγλύφων ὀπὴν κενόλ, Wecklein; ὄρα δὲ γείσων τριγλύφων τόπους κενούς, Wecklein, 1888; ὄρα δὲ γείσα τριγλύφων ὄπου 'στι νῶν, F. W. Schmidt; ὄρα δ' ἐκεῖ σοι τριγλύφων τόποι κενοί, Schenkl; ὄρα δὲ γ' εἶσω, τριγλύφων ὄπου κενόν, Paley; ῥᾶστον δὲ γ' εἶσω, Köchly; ὄπη, Kirchhoff. To be added to this list, which is not complete, are variants both in punctuation and in rendering.

Few of the editors, save perhaps those who have been attracted by Blomfield's emendation, have questioned the force of εἶσω; but one who has done so is Gottfried Hermann, in his edition of the play published in 1831: "*in eo non videtur verum vidisse (Handius), quod εἶσω τριγλύφων coniunxit. Immo εἶσω καθεῖναι cohaerent, καθεῖναι autem cum τριγλύφων constructum est, hac sententia: et vide saltem ubi vacuum spatium sit corpori intro ex triglyphis demittendo.*" Whether Hermann objected to taking εἶσω τριγλύφων in the sense of "between the triglyphs" I do not know, but if we accept his interpretation the passage cannot be used to support Winckelmann's theory.¹

It is my own belief that εἶσω τριγλύφων can hardly mean "between the triglyphs." A more natural significance of εἶσω in this passage is "within" in the sense of "beyond" or "behind," cf. εἶσω πυλῶν. This is the meaning I now propose for it in connection with a new interpretation of the passage to this effect: behind the frieze is an opening in the ceiling of the vestibule; by means of this opening one can make his way to the attic and let himself

¹ If, as most editors seem to think, εἶσω τριγλύφων is good Greek for "between the triglyphs" τριγλύφων must mean the several triglyphs and not the frieze as a whole, as it does in *Bacchae*, 1214: ὡς πασσαλεύση κῶτα τριγλύφοις τόδε.

down into the cella. Such was the way of escape of the Phrygian in the passage of the *Orestes* quoted above, and it seems no less likely here. This proposal solves most of the difficulties outside the text, and I am not aware that it creates any new ones. Those who insist on literal accuracy would, of course, understand this difference in the action of the Phrygian and that proposed by Pylades that, whereas the latter sees a way through the ceiling of the parastade, the former finds an opening in the pediment and descends over the frieze in making his way to the ground.

"The text is not yet healed," but the principal point of this paper is made if it calls attention to the slender character of the evidence on which our theories of the primitive frieze are based.

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ARCHAEOLOGICAL DISCUSSIONS¹

SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

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GENERAL AND MISCELLANEOUS

The Origins of Civilization in Europe.—In the *Annual Report* of the Smithsonian Institution for 1916, pp. 425-445, Sir ARTHUR EVANS's address as President of the British Association for the Advancement of Science is reprinted. He calls attention to the high artistic attainments of the inhabitants of southwestern Europe in late palaeolithic times as shown by paintings and sculptures in caves in France and Spain. At present no juncture of neolithic culture with palaeolithic has been proved, although attempts have been made to bridge the gap. At Cnossus, if one may judge by the thickness of the deposit, the beginnings of neolithic culture are more than nine thousand years old. In Minoan Crete, influenced as it was by its contemporaries Egypt and Babylonia, is to be found the birthplace of modern European civilization in its higher form.

A History of Classical and Italian Art.—In Parts 25 and 26 of the *Storia dell'Arte Classica e Italiana*, by Professors RIZZO and TOESCA (Turin, 1918, Unione Tipografico-Editrice Torinese, Vol. III, pp. 433-480; figs. 258-285), the latter completes his account of sculpture from the end of the eighth to the eleventh century, discusses the minor arts for the same period, and begins the study of Romanesque and Gothic architecture.

Position of Dies in Ancient Coins.—An interesting note on the position of dies in ancient coins is printed by J. G. MILNE in *Num. Chron.* 1917, pp. 315-316. It is based on the examination of a group of coins found at Smyrna and now in the Athens cabinet. They are of the late second and early third century A.D., and examples from the same die or dies are frequent. It is suggested that "the upper die was so shaped or marked as to show the vertical axis of the type, but not to distinguish the top or bottom"; and "that ↑↓ was intended to be the normal position," but "some dies were more liable than others to be reversed."

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Dr. T. A. BWENGER, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Mr. JOHN SHAPLEY, Professor A. L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after June 30, 1918.

For an explanation of the abbreviations, see pp. 99-100.

A History of Architecture.—Professors KIMBALL and EDGELL have brought out a *History of Architecture* as the first volume of a new series of books on archaeology and the Fine Arts to be published by Harper and Brothers under the editorship of Professor George H. Chase of Harvard University. The book begins with a statement of the elements and theory of architecture and then discusses in turn prehistoric, pre-classical, Greek, Roman, early Christian, Byzantine, Romanesque, Gothic, Renaissance, post-Renaissance, and modern architecture, as well as that of America and the East. The chapters dealing with the Middle Ages were written by Professor Edgell and the rest of the book by Professor Kimball. A glossary is appended. The publishers announce that histories of sculpture and painting are in preparation. [*A History of Architecture*. By FISKE KIMBALL and G. H. EDGELL. New York, 1918, Harper and Brothers. xxiii, 621 pp.; 317 figs. 8vo. \$3.50 net.]

The Interpretation of Certain Reliefs of Gandhara.—Among the Graeco-Indian reliefs of the Gandhara period there are two subjects that have hitherto defied interpretation. In *J. Asiat.*, XI Sér., IX, 1917, pp. 257–282 (2 pls.), A. FOUCHER attempts their exposition. One represents the body of a woman protruding from a tomb, being fed by a kneeling figure, while near-by stands a small naked boy. This is explained by one of the five hundred Buddhist stories preserved in the Chinese Tripitaka which relates how the young bride of a king was put to death by a conspiracy of Brahmans at a time when the Buddha was visiting this kingdom. Although she was buried, her unborn child did not die, but was born in due time, lived on her milk, and when he was three years old emerged from the tomb and grew up among the wild beasts. Eventually he joined the Buddha and avenged his mother. The other relief represents a man standing behind a table, another man being dragged away by the neck, and a bird picking up something from the ground. This also is explained by a story in the Chinese Tripitaka of a Buddhist monk who was unjustly accused of having stolen from a jeweler a pearl, which in reality was swallowed by a bird.

Tombs of the Southern Chinese Dynasties.—In *C. R. Acad. Insc.* 1917, pp. 241–259 (12 figs.), V. SEGALÉN describes the sepulchral monuments of the dynasties of the Song, the Ts'i, the Leang, and the Tch'en of the fifth and sixth centuries A.D. in southern China. They lie scattered between Nanking on the west and Tanyang on the east, and most of them belong to the Leang dynasty (502–557 A.D.). There are statues of winged lions and other monsters which the writer calls chimeras. The latter seem to have been placed over the graves of those who actually reigned, and the lions over the graves of princes. These monsters may be traced back to the Song dynasty (420–479 A.D.). Compare for example the monster marking the grave of Song Wen-ti at K'ilin-men. Some monuments consist of a stele resting on the back of a huge tortoise; still others are columns supporting a lion. The inscriptions on these columns are strangely reversed.

Benin Antiquities in the Peabody Museum.—In *Harvard African Studies*, I, 1917, pp. 130–146 (7 pls.; 2 figs.), E. A. HOOTON describes a collection of ancient Benin bronzes, ivories, and wooden objects. In addition to the objects usually found in such collections, such as bronze plaques, pedestals, bronze bells, bronze masks, and small bronze figurines, the Harvard collection has specimens of rarer types. Among these are an ivory statuette, elaborately

and excellently carved, a bronze group representing an execution scene, a wooden execution block, a curious wooden object which probably represents a ceremonial double-edged sword, and a large wooden ceremonial rattle.

Valona.—A sketch of the very complicated history of the town of Valona, Venetian Avalona (αὐλῶν, a hollow between hills), with a list of its rulers, Byzantine, Sicilian, Angevine, Serbian, Turkish, Venetian, and Albanian, down to its occupation by the Italians in December, 1914, is given by W. MILLER in *J. H. S.* XXXVII, 1917, pp. 184–194. Its fine harbor, the natural resources of the neighboring region and its position at the mouth of the Adriatic have made it a place of some value for transit or for military purposes. The only interruption in nearly five centuries of Turkish rule (1417–1912) was a temporary occupation by Venetians in 1690–91, who for their own protection had to break up the piracy which centred there. Great Britain built a new jetty here in 1915 for the rescue of the retreating Serbian army.

EGYPT

Palaeoliths of the Eastern Desert.—In *Harvard African Studies*, I, 1917, pp. 48–82 (18 pls.; 16 cover pls.; map; fig.), F. H. STERNS describes a collection of ancient flint implements from the Eastern Desert of Egypt. This region is now entirely uninhabitable. He also describes for comparison certain collections from the Thebaïd. He concludes that these implements resemble in type the upper Acheulean and the Mousterian forms of western Europe, but the lack of stratigraphic and palaeontological evidence makes certain correlation impossible. The chief difference between the Eastern Desert specimens and those of the Thebaïd seems to be the presence of greater artistic finish in the former. A peculiar “spokeshave” form of flint implement seems to be a local development in the Thebaïd.

Oral Surgery in Egypt during the Old Empire.—In *Harvard African Studies*, I, 1917, pp. 29–32 (2 pls.), E. A. HOOTON describes an Old Empire mandible which showed evidence of having been operated upon for the relief of an alveolar abscess. He says that the evidence establishes beyond a reasonable doubt the existence of a rudimentary knowledge of oral surgery in the Old Empire.

The End of the Middle Egyptian Empire.—The period between the twelfth and the eighteenth Egyptian dynasties is one of anarchy and disintegration. A multitude of royal names appear in the inscriptions and lists. In *J. Asiat.*, XI Sér., IX, 1917, pp. 193–256, R. WEILL attempts to arrange these in a chronological table indicating contemporary dynasties in different nomes and the succession of the monarchs in each dynasty. Complete citation is given of the epigraphic evidence.

Tools and Weapons.—Professor FLINDERS PETRIE has published under the auspices of the British School of Archaeology in Egypt and Egyptian Research Account a work entitled *Tools and Weapons*. It is concerned particularly with implements from Egypt although many illustrations are drawn from other parts of the world. He discusses in turn the plain blade axe, the socketed axe, the double axe, adzes and picks, the adze and hoe, the lug adze, the hoe, the chisel, the knife, the symmetric knife, the sword, the dagger, the spear-head, the arrow, the throwing-stick, slings and bullets, harpoons, fishhooks, scale armor, rasps and scrapers, artisans' tools, builders' tools, the saw, the sickle,

the pruning-hook, shears, razors, leather cutters, tweezers, borers, pins and needles, implements for spinning and weaving, agricultural tools, the horse-bit, the spur, stamps for branding, fire-hooks, manacles, fish-spears, flesh-hooks, shovels, ladles, spoons, mortars and pestles, fire-drills, strigils, the bolt, lock and key, pulleys, compasses, chains, and tools used in casting. In conclusion the author comments on the distribution of the different types, pointing out forms peculiar to Egypt, forms unknown in Egypt, and forms which were widespread. The book contains altogether about 2000 illustrations, partly from photographs of objects in the collection of University College, London, and partly outline drawings. [*Tools and Weapons*. By W. M. FLINDERS PETRIE. London, 1917, British School of Archaeology in Egypt; Constable and Co.; and B. Quaritch. vii, 71 pp.; 79 pls. 4to.]

Egyptological Bibliography.—In *R. Arch.* VI, 1917, pp. 374–391, SEYMOUR DE RICCI continues (see *ibid.* pp. 197 ff.) his Egyptological bibliography, giving a list of books and articles relating to various localities. The list is arranged under sixty-five names of places.

BABYLONIA, ASSYRIA AND PERSIA

Tones in Sumerian.—In *J.A.O.S.* XXXVII, 1917, pp. 309–320, P. HAUPT reaches the conclusions that Sumerian was a tonal language like Chinese, the persons were not distinguished by different tones of the verbal preformatives, nor by different quantity of the vowels of the preformatives, the pronouns of the first and second persons may be construed with the third person of the verb, even without the pronoun of the first or second persons or words like “thy servant” or “my lord,” the third person of the verb may be used for the first or second persons; in cases where the vocative seems to be followed by the third person of the verb instead of the second, we may regard the statement after the vocative as a relative clause.

Fresnel’s Expedition to Mesopotamia.—In *C. R. Acad. Insc.* 1917, pp. 329–338, M. PILET gives an account of the expedition of Fresnel to Mesopotamia and Persia from 1851 to 1855. Great difficulties were encountered from the beginning, and the antiquities actually excavated were lost in the Tigris, but nevertheless, valuable work was accomplished. The site of Babylon was identified, also the site of the palace of Nebuchadnezzar, and it was discovered how far down it was necessary to go to reach virgin soil. Fresnel died at Bagdad, November 30, 1855, and his secretary Perreymond soon after.

Studies in the Old Persian Inscriptions.—In *J.A.O.S.* XXXV, 1915–1917, pp. 321–350, R. G. KENT maintains that since Rawlinson’s work on the great inscription of Darius has been emended by Jackson, King, and Thompson, scholars should beware of conjectural alterations of the text. Any emendation of the Old Persian inscriptions should be based upon such processes as dittography, haplography, accidental omission of one or more of the strokes forming the character, partial obliteration of signs by the action of the elements, and the like. From this conservative standpoint, some passages in the Behistan inscription are here examined.

SYRIA AND PALESTINE

An Old Hebrew Seal from Jerusalem.—In *Pal. Ex. Fund.* L, 1918, pp. 93–94 (fig.), E. J. PILCHER publishes a seal bearing in old Hebrew characters the

inscription "To Jekamiah, son of Ishmael." It probably belongs to the fifth century B.C.

The Zakar and Kalamu Inscriptions.—In *J.A.O.S.* XXXV, 1915-1917, pp. 353-369, C. C. TORREY gives translations and notes on the Zakar and Kalamu inscriptions that were made from the original publication in photograph and facsimile. The publication of these results has been delayed owing to the fact that the manuscript was in Germany at the outbreak of the war, but they still have value as an independent contribution to the interpretation of these difficult texts.

The Port of Gaza and Excavation in Philistia.—In *Pal. Ex. Fund*, L, 1918, pp. 73-87, D. MACKENZIE reports upon an examination of the mound of ancient Gaza on the seashore about three miles from the present city. The mound is unoccupied by buildings and offers a promising site for excavation. It would be easy to ascertain by borings whether it was occupied in the earliest period; and if so, investigation might throw much light upon the early history of the Philistines.

Coinage of Antiochus VIII of Syria.—The coinage of Antiochus VIII of Syria, nicknamed Grypus, is discussed and arranged in connection with the history of his reign by C. OMAN in *Num. Chron.* 1917, pp. 190-206 (pl.).

ASIA MINOR

Chronology of the Coins of Chios.—In *Num. Chron.* 1917, pp. 207-257 (pl.), J. MAVROGORDATO continues from page 353 of the preceding volume his chronological arrangement of the coins of Chios, dealing in this article with the period from 84 B.C. to the reign of Augustus. A concluding article will follow.

An Aramaic Inscription from Cilicia.—The Museum of Yale University possesses an Aramaic inscription that is said to have been cut out of a cliff above the river Cydnus, in the neighborhood of the village of Kesejek Keoyew, about fifteen miles northeast of Tarsus. This is investigated by C. C. TORREY in *J.A.O.S.* XXXV, 1915-1917, pp. 370-374 (2 pls.). On the palaeographic evidence the inscription should be dated in the fifth century B.C. It reads: "This image NNST erected before ADRŠWN, because he protected my spirit, which is his. Whoever evil does to this image, Sahar and Šamaš will require it of him."

A Lydian-Aramaic Bilingual.—The inscription in Lydian and Aramaic, published in Vol. VI, Pt. 1, of *Sardis* (*Publications of the American Society for the Excavation of Sardis*, 1916) is studied in great detail from the Aramaic side by S. A. COOK in *J.H.S.* XXXVII, 1917, pp. 77-87; 219-231. He differs from the editor, E. Littmann, on some important points, chiefly on the question of the relations of Lydians and Semites and the standing of the Aramaic language at Sardis. He thinks it quite possible that there was a colony of Jews already here at the time, whether "the tenth year of Artaxerxes," in which the text is dated, be in the fifth or the fourth century B.C., and that owing to commercial relations with northern Syria, their language had already become the *lingua franca* of this inland trade centre, as Phoenician was that of the coast cities. Hence an Aramaic version of a funerary inscription designed to protect a tomb and its contents from wanton disturbance is not unnatural or to be suspected. Biblical texts are of value as evidence on these matters. Criticism of the Lydian version and of its part in the deciphering of the still unidentified Lydian

language is rendered difficult by the fact that only fifteen of the thirty-four inscriptions found at Sardis have been published. This inscription at least suggests that "future excavations may well bring to light facts relating to the life and thought of the Jews at Sepharad, the predecessors of the Christian Church in Sardis."

GREECE

SCULPTURE

An Archaic Grave Stele on Tenos.—In *R. Ét. Anc.* XX, 1918, pp. 33-37 (fig.), P. GRAINDOR publishes the lower part of a grave stele built into a stairway at Xynara, island of Tenos. It is of Parian marble, 0.92 m. high, and represented a standing man. It is broken off above the knees. The feet are shod with sandals of a complicated pattern. A small portion of the cloak is visible behind the right knee. The writer dates the relief about 475 B.C. and points out that it is the only piece of ancient sculpture so far found on Tenos.

The Parthenos.—The publication in *J.H.S.* (XXXVI and XXXVII) of some ivory fragments from the faces of chryselephantine statues has prompted W. R. LETHABY, *ibid.* XXXVII, 1917, pp. 140-159 (11 figs.), to make a conjectural verbal restoration of the Parthenos of Phidias, with discussion of its technique, details, and symbolism. He notes that the core upon which the plates of ivory and gold were directly fitted must have been of some more plastic material than wood, which would have cracked and shrunk. The pieces of ivory replaced thin sections cut from the surface of the originally fully modelled image. The sheet gold was about as thick as a visiting card. Many subordinate parts such as the pillar, the shield, and the sphinx on the helmet were probably of bronze, the snake perhaps of gold and bronze, and the gold surface of the garments relieved with patterns in color, while jewelled eyes, bronze eyelashes, and other applications of color in paint or metal would carry out the conception of the figure as an embodiment of vivid life and action. It was the type of the archaic xoanon translated into terms of the Periclean Age. The pillar on which the hand that holds the Nike rests is an essential feature of the design, making possible the slight forward leaning of the goddess, as if listening or speaking eagerly. In accepting the statue as a thank-offering for victory, she has lifted it from the column on which it had been set, as such statues were erected at that time. The Nike itself was about life-size, five and one-half feet or four cubits, and the Athena five times life-size, with about five feet additional for the base and the same for the towering helmet, making up approximately the thirty-eight feet recorded for the entire height. The great crested helmet was necessary to give the proper effect to the head when seen from so far below, but its radiating ornaments were chosen for their symbolic value as well, the sphinx for the governance of wisdom, the winged horses above the eyes for swiftness of sight, the guardian griffins over the ears for attention to hear. If there was an owl perched upon one of the raised cheek-pieces, it would have many parallels. The battle of the Centaurs on the edges of the sandals typified the putting under foot of all beastliness and disorder. The base or *bathron*, 25 x 12½ feet, was adorned with a frieze of silver-gilt figures in high relief against a marble background. It had twenty-one figures, two more than the basis of the Zeus at Olympia. The subject, Pandora being adorned by Athena and Hephaestus, typified the

goddess's patronage of the crafts. Of many imitations or copies, the east frieze of the temple of Athena Nike is the closest.

A Replica of the Athena Parthenos.—In *R. Arch.* VI, 1917, pp. 458 f. (fig.), S. R(EINACH) describes a terra-cotta figurine acquired in 1916 by the Museum of Geneva (see Cartier's *Compte rendu pour 1916*, Geneva, Kundig, 1917, pl. opp. p. 18). The type closely resembles that of the Varvakeion figure, but the drapery is different. A cloak passes obliquely across the body from the left shoulder. On the base the name ΑΘΗΝΑ is inscribed.

Aphrodite with the Shell.—In *R. Arch.* VI, 1917, pp. 392-416, W. DEONNA discusses the type of Aphrodite with or in a shell, a type frequently found in small works of art from the fourth or third century B.C. to a late date. The goddess is originally thought of as born from the shell. The oriental motif is changed in the fourth or third century B.C. to conform to Greek taste. The Romans adapted it to funerary ornamentation, and this decoration survived in Christian art to a relatively late time.

The Eros of Cyrene.—In *Gaz. B.-A.* XIV, 1918, pp. 1-4 (2 figs.), L. MARIANI discusses the Eros of archer type found with other now well-known sculptures, *e.g.*, the Aphrodite Anadyomene, at the baths of Cyrene (Fig. 1). The statue is of significance for the determination of the origin of this popular type. Apart from the fact that the Cyrene example lacks wings (which, to judge from the incorrect anatomy of its shoulders and from the testimony of the many statues of the same derivation, the original surely had), it is the finest of its kind, surpassing the Capitoline example (Fig. 2). Its



FIGURE 1.—STATUE OF EROS: CYRENE.



FIGURE 2.—EROS OF THE CAPITOL:
ROME.

model was bronze, as its pose and details show. Crediting the original to Lysippus is preferable to the later suggestion of Cephisodotus the younger. The likeness of the Maiden of Anzio would only suggest another attribution to the school of Lysippus.

A Head of Demosthenes.—In *R. Arch.* VI, 1917, pp. 328–338 (4 figs.), FREDERIK POULSEN discusses a head of Demosthenes acquired by the Ny Carlsberg Museum in 1896, but only recently properly set on its base. The overhanging lip and slightly unsymmetrical mouth indicate the natural difficulties with which the orator had to contend, and the wrinkled brow and serious expression hint at his failure to prevent the subjugation of Athens, and all Greece. The statue in the Vatican (like the one at Knole Park) shows the latent power of the man, but does not show the elaborate clothing or the free gesticulation which literary records ascribe to him.

A Mysterious Portrait.—In *R. Arch.* VI, 1917, pp. 357–368 (4 figs.), S. REINACH discusses a head with wrinkled face and rough hair and beard, which is known in several replicas (a bronze from the villa of the Pisos at Herculaneum, a marble in the Museo delle Terme—Bernoulli, *Griechische Ikonographie*, II, pl. xxii— etc.). The replica in the Museo delle Terme (Hekler, *Portraits*, p. 118b) has a wreath of ivy, showing that the person represented was a poet. A double herm in the Villa Albani (Hekler, *Portraits*, p. 105) unites this head with a youthful head plausibly identified by Studniczka with Menander. The head resembles a well-known bust of Homer and is clearly a Hellenistic work. Someone of great fame, well-known in Italy, must be represented, and someone who could be paired with Menander; Aristophanes was bald, and Philemon was not popular in Italy. The most probable name is Epicharmus.

VASES

A Cylix from the Workshop of Brygos.—In *Atene e Roma*, XX, 1917, pp. 190–197 (2 figs.), T. Tosi discusses a cylix in the severe red-figured style (32 cm. in diameter) acquired by the Museo Archeologico of Florence from Castelgiorgio in 1907. About half of the vase is preserved. On the inside is a banquet scene, while on the outside a youth is carrying off a maiden pursued by several of her companions. The writer believes the subject to be Theseus and Pirithous carrying off Helen. He attributes the vase to the workshop of Brygos.

Euthymides.—J. C. Hoppin's new edition of his book on Euthymides forms a point of departure for E. POTTIER's study of Greek ceramics in *Gaz. B.-A.* XVIII, 1917, pp. 433–446 (7 figs.). Criticism is made of Hoppin's method of attributing anonymous vases by too exclusive dependence upon comparison of details with signed pieces. For the sake of accuracy and clearness it is much better to avoid the unqualified attribution of unsigned works to a master when there is the least reason for doubt. The character of Euthymides' subject matter is investigated, his preference for heroic themes, his composition by contrasts—historic with genre—and his treatment of each figure in isolation, as opposed to Euphronius' intermingling of figures. A comparison of Euthymides' work with that of Euphronius leads to no justification of the former's boast: *ὦς οὐδέποτε Εὐφρόνιος*.

INSCRIPTIONS

Notes on Greek Inscriptions.—In *R. Ét. Anc.* XIX, 1917, pp. 237–254, M. HOLLEAUX discusses the letter supposed to have been sent by Cn. Manlius Volso to the people of Heraclea in Latmos (*C.I.G.* 3800). Omitting the name in the first line he restores στρατηγός ὑπατος Ῥωμαίων | [καὶ δῆμαρχοι καὶ ἡ σύγκλητος] Ἡρακλεωτῶν τῇ βουλῇ καὶ τῷ δήμῳ [μυαί χαιρεῖν]. He also discusses lines 22–29 of the decree of the Thracian city of Dionysopolis in honor of Acornion (Dittenberger, *Sylloge*, No. 342) and restores line 25 thus: γεγόμενος καὶ πρὸς τοῦτον ἐν τῇ πρώτῃ καὶ μεγίστῃ φιλιᾷ κ.τ.λ.

Date of Lysitheides.—By comparison with a recently published inscription from Salamis A. C. JOHNSON (*Cl. Phil.* XIII, 1918, pp. 209–210), attempts to date the archonship of Lysitheides (*I.G.* II, 620) in the year 265–4 B.C.

Notes on Delphian Inscriptions.—In *R. Ét. Anc.* XX, 1918, pp. 20–24, É. BOURGUET publishes notes on several of the less important Delphian inscriptions.

A Delphian Decree.—In *R. Arch.* VI, 1917, pp. 339–341, ÉMILE BOURGUET discusses the inscription (*Philologus*, LVIII, p. 67) which records the grant of proxeny Διονυσικλείῃ Ἰατροκλέους (not Ἱεροκλέους) Ἀλαβανδεῖ. The date—archonship of Eucles—cannot be, as has been supposed heretofore, about 238–236 B.C., but must be nearly twenty years later. In the archonship of Philaetolus at Delphi (202–201), Pausimachus, son of Iatrocles, of Alabanda (at that time called Antioch of the Chrysaorians) came to Delphi (see *B.C.H.* XVIII, p. 235). He was the brother of Dionysicles mentioned in this inscription.

The Letter of Spurius Postumius to the Delphians.—In September, 1894, a fragment of the letter of the Roman praetor Sp. Postumius to the κοινόν of the Delphians was found. The text of this fragment and of that published by H. N. Ulrichs (*Reisen und Forschungen in Griechenland*, I, p. 115, No. 36) is published, with restorations and notes, by MAURICE HOLLEAUX in *R. Arch.* VI, 1917, pp. 342–347. The restored text reads as follows: Σπόριος Ποστούμιος Λευκίου υἱὸς στρατηγὸς Ῥωμαίων τῷ κοινῷ τῶν Δελφῶν χαιρεῖν. οἱ παρ' ὑμῶν ἀποσταλέντες πρεσβευ[εῖ]ται Βούλων, Θρασυκλῆς, Ὀρέστας περὶ τῆς ἀσυλίας τοῦ ἱεροῦ καὶ τῆς πόλεως καὶ τῆς χώρας διελέγησαν πρὸς τὴν σύγκλητον, | καὶ περὶ τῆς ἐλευθερίας καὶ ἀνείσφορ[ε]ίας ἥξειον ὅπως αὐτονόμους καὶ ἀφορολογήτους ὑμᾶς εἶναι συγχωρηθῇ παρ' ἡμῶν. | γινώσκετε οὖν δεδογμένον τῇ συγκλήτῳι τό τε ἱερὸν τοῦ Ἀπόλλωνος τὸ ἐν Δελφοῖς ἄσυλον εἶναι, καθὼς καὶ νῦν ἐστίν, καὶ | τὴν πόλιν τῶν Δελφῶν καὶ τὴν χώραν, καὶ Δελφοῖς αὐτονόμους ὑπάρχειν καὶ ἀφορολογήτους ἀπὸ πάντων, πάντα τὰ αὐτῶν ἔχον[τας] καὶ πολιτεύοντας αὐτοὺς καθ' αὐτοὺς καὶ κυριεύοντας εἰς τὸν αἰεὶ χρόνον τὰς τε Κίρρας καὶ τοῦ πεδίου καὶ τοῦ λιμ[ένος], καθὼς πάτριον αὐτοῖς ἐξ ἀρχῆς ἦν· ὅπως οὖν εἰδῇτε τὸ γεγονός περὶ ὑμῶν δόγμα ὑποτέτακται τὸ ἀντιγραφον.] Sp. Postumius L. f. Albinus was praetor urbanus et inter peregrinos in 189 B.C.

Inscriptions Relating to the Attalids.—In *R. Ét. Anc.* XX, 1918, pp. 9–19, M. HOLLEAUX discusses a decree in honor of members of the family of Attalus found at Delphi in 1893 (*Inv.* No. 442). He restores Δελφοὶ ἔδωκαν [Φιλεταίρῳ καὶ τῷ υἱῷ Ἀττάλῳ | καὶ τῷ ἀδελφῷ] Εὐμένει Περγαμ[εῦσσι] προξενίαν | προμαντεῖαν, κ.τ.λ. The Attalus is the father of Attalus I. He also restores the lacuna in line 6 of the letter of Attalus to the people of Amlada (Dittenberger, *O.G.I.* 751) thus: δραχμὰς ἐνακισχιλίας ἐπισκευ[ῆς] ἐν[εκ]ε.

The Inscription of Gaionas.—In *C. R. Acad. Insc.* 1917, pp. 275–284, F. CUMONT discusses the enigmatical Greek inscription found in the sanctuary of

the Syrian divinities on the Janiculum. He shows that the stone on which it was cut was used in some kind of cistern or other receptacle for holding water. Gaionas, who is known from several other references, is designated as *δεῖπνοκλήτης*, and Cumont argues that he was so called because he was the judge, or one of the judges, at ritual banquets at which sacred fish were eaten by the priests of the Syrian divinities. Gaionas probably built a fish pond where the sacred fish were kept. Eating these fish was supposed to bestow immortality.

COINS

A Survey of Greek Federal Coinage.—A rough tabulation of the various leagues and confederations of Greek cities, from the sixth century B.C. downward, according to the division of the minting privilege between the federal and the local bodies, shows six main divisions, from complete decentralization (no federal coinage) to complete centralization (no local coinage). There is great fluctuation in the usage even of single leagues, the Boeotian league, for instance, which is one of the longest in duration, appearing in five of the six classes. The general tendency toward complete dualism, the central and local authorities being coördinate and equal, belongs to the early stages of any process of political organization, and marks these confederations as on the whole rudimentary structures. (M. O. B. CASPARI, *J.H.S.* XXXVII, 1917, pp. 168-183.)

GENERAL AND MISCELLANEOUS

Researches in Cretan Archaeology.—In *Arch. Miss.* XXII, 1917, pp. 7-81 (2 pls.; 17 figs.), L. FRANCHET reports upon his researches in the field of Cretan archaeology. He points out as a result particularly of the excavations at Tylissus that Early Minoan III and Middle Minoan I are closely connected; that Middle Minoan II and the early part of Middle Minoan III are distinct from the later part of Middle Minoan III, which is to be connected with Late Minoan I and II; that Late Minoan III forms a class by itself. He proposes as a result of these observations to substitute for the nine periods of Evans the following chronological divisions based upon the development of work in bronze:

Aeneolithic = Early Minoan I and II.

Bronze I = Early Minoan III and Middle Minoan I.

Bronze II = Middle Minoan II and the early part of Middle Minoan III.

Bronze III = End of Middle Minoan III and Late Minoan I and II.

Bronze IV = Late Minoan III, *i.e.* the Mycenaean period.

Iron Age I = Geometric period.

He discusses in detail the characteristics of Cretan pottery from neolithic times to the Geometric period. He also attempts a reconstruction of the potter's wheel of Crete, pointing out that certain disks found at Cnossus and elsewhere are probably the upper parts of such machines, and he describes the methods of preparing the clay and firing vases. The Throne Room at Cnossus, he thinks, was intended for religious purposes and the throne was the seat of the priest. The room near-by, sometimes called a kitchen, was a chapel. The different kinds of stone used by the early Cretans for cups and other vessels were not imported, but are still to be found in abundance in the island at Duo Adelfia, and also near the sea at Cazaba and on Kakon Oros. On

the plateau of Tripiti are remains of houses which appear to date from neolithic times. Many objects of obsidian were found here and in the plain of Roussès.

A History of Ancient Sparta.—Under the title *Storia di Sparta Arcaica, Parte I* (Florence, 1917, Libreria Internazionale. viii, 276 pp. 8vo. 10 l.), L. PARETI publishes a history of Sparta from the earliest times to the conquest of Messenia. He discusses the pre-Greek and pre-Dorian populations of Laconia and argues that the Greeks became established in the Peloponnesus between 2500 and 2000 B.C. He thinks the beginning of Dorian colonization in Laconia dates from about 1400–1350 B.C. In the fourteenth century the town of Lacedaemon, *i.e.* Therapne, was founded and at the end of this century Laconians took part in the establishment of Dorian colonies. About 900 B.C. the valley of the Eurotas was conquered and the class of Helots came into existence. Sparta was founded between 900 and 850 B.C. At the end of the ninth century southern Laconia was conquered and between 800 and 750 southern Messenia. Tarentum was founded about 750 and at the same time additions were made to the Laconian colony at Thera. Northern and western Messenia were overcome by the end of the eighth century. Between 650 and 630 the Dorians took part in the founding of Cyrene. The book closes with an appendix on legendary Cyrene. A second volume will deal with the Spartan constitution and government.

The Fifth-Century Theatre at Athens.—In *University of California Publications in Classical Philology*, V, ii, May 18, 1918, pp. 55–58 (fig.), JAMES TURNER ALLEN reconstructs the Dionysiac theatre of the fifth century in such a way that the *skene* is tangent on the south to the old orchestra (threshing floor?), the projecting inner corners of the *paraskenia* touch the same circle, and the circle of the new orchestra touches at the north the inner wall of the old circle. A monograph on the Greek Theatre of the Fifth Century is to be published shortly.

Children in Antiquity.—In *Atene e Roma*, XX, 1917, pp. 91–109 (6 figs.), A. CALDERINI discusses the position of children in the life of the ancient Greeks and Romans.

Sun and Resurrection Myths.—In *J.H.S.* XXXVII, 1917, pp. 160–167, GRACE H. MACURDY discusses the resurrection myths of Thracian or northern Greek origin, such as the tales of Alcestis, Laodamia, and Orpheus, showing that they are based upon sun and moon worship, and that the Demeter-Persephone theory has been unduly emphasized. They typify the loves of the King and Queen of Heaven, forever attaining union only to be forever parted, rather than the death and rebirth of the year.

A Greek Legal Process in Byzantine Egypt.—In *C. R. Acad. Insc.* 1917, pp. 354–369, E. CUQ calls attention to a Byzantine papyrus in Cairo dating from the year 567 which proves that the legal procedure known as ἀποκηρύξεις was still employed at that time. By this process a father might formally exclude a child from his house and forbid him the use of his name. A similar law is still observed in Greece and an instance of its employment as late as 1911 is cited.

The Freer Manuscript of the Epistles of Paul.—One of the four Biblical manuscripts in the possession of Mr. Charles L. Freer is a much mutilated and decayed copy of the *Epistles of Paul*. Professor SANDERS has succeeded in

separating the leaves upon which writing is legible and has published the Greek text together with a discussion of the palaeography and variant readings. The legible portion begins at *I Corinthians*, 10, 29, and parts of all the remaining Pauline Epistles are found. This manuscript together with that of the Four Gospels made a complete New Testament except that it did not contain *Revelations*. It will eventually be deposited in Washington. [*The New Testament Manuscripts in the Freer Collection. Part II. The Washington Manuscript of the Epistles of Paul.* By HENRY A. SANDERS. New York, 1918, Macmillan Company. Pp. 243-315; pls. VI-VIII.]

ITALY

SCULPTURE

Roman Reliefs Representing Garlands.—In *B. Soc. Ant. Fr.* 1916, pp. 334-340, A. HÉRON DE VILLEFOSSE publishes details in regard to the reliefs at Arles, Narbonne, Nîmes, and Orange representing eagles carrying garlands in their beaks. The slabs at Orange have nothing to do with the stage of the theatre, but were probably placed near the statue of an emperor (Augustus?); neither do the slabs at Arles belong to the theatre there, but probably to a temple of Augustus. The reliefs at Narbonne may have formed part of the decoration of the temple of Augustus in that town, and those at Nîmes came from a lost building of the time of Augustus.

A Bronze Figure of a Youth in Oriental Costume.—A Graeco-Roman bronze statuette, twenty-five inches high, found in 1912 in or near northern Egypt, represents a boy of ten or eleven years wearing shoes, trousers, long-sleeved tunic, cloak, a remarkable pyramidal headdress, and a sort of broad scarf looped up and hanging in rounded folds over the abdomen. Both hands held attributes of which only the handle of one remains. This costume resembles that of the Armenian kings and also those of Commagene as seen on the reliefs of the burial place of Antiochus II (69-31 B.C.), on the top of Nemrud Dag, in the eastern Taurus. It has been suggested that the figure represents Alexander Helios, the oldest son of Anthony and Cleopatra, who was proclaimed king of Armenia when a child, but a mythological subject is more probable. Of the eunuch Attis not much is known of the earlier type, but the later debased forms show a treatment of the abdomen which recalls that of the statuette. (A. H. SMITH, *J.H.S.* XXXVII, 1917, pp. 135-159; pl.; 3 figs.)

COINS

Rare Roman Colonial Coins.—Five rare Roman colonial coins, of Buthrotum (Augustus), Saguntum (Sempronius Vettonianus and L. Fabius Postumus), Castulo (Augustus?), Corinth (Caligula; P. Vipsanius Agrippa), and Leptis Magna (Diuus Augustus; *temp.* Tiberius?), are published and illustrated by L. A. D. MONTAGUE in *Num. Chron.* 1917, pp. 313-315 (fig.).

Coins with Diuus Augustus.—In *Num. Chron.* 1917, pp. 258 ff. (pl.), E. A. SYDENHAM discusses the chronology of coins of the *Diuus Augustus* type, disagreeing in some points with the conclusions reached by Laffranchi in his article on the same subject printed in *R. Ital. Num.* in 1910.

Desultores or Dioscuri?—N. BORELLI is of the opinion that the reverse-

type on a didrachma of Suessa Aurunca, published by Dr. Mirone in *R. Ital. Num.* XXIX, 1916, representing a nude youth holding a leafy branch in his left hand and leading a horse with his right, does indeed depict (as Ambrosoli judged) one of the Dioscuri, and not a *desultor*. Sig. Borrelli would refer the type to the story of the contest of the Dioscuri with the sons of Aphareus, in which Castor was killed. The figure on the coin would then be that of the surviving brother, Pollux, with the palm of victory and Castor's horse. (*R. Ital. Num.* XXX, 1918, pp. 366-374.)

Coinage of Heraclea.—Under the title 'Primitiae Heraclienses' S. W. GROSE discusses (*Num. Chron.* 1917, pp. 169-189) the single letters, or groups of letters, as abbreviations of names, that stand on coins of Heraclea, together with some questions of chronology. He remarks in closing that "conclusions drawn concerning the identity of coin engravers at Heraclea and Tarentum are unsound because they rest on unsound data. Whether, in spite of this, the letters are abbreviations of artists' names is a thesis which does not seem open to direct proof or the reverse. So far as I can see, there is little to say in favour of it."

GENERAL AND MISCELLANEOUS

A Gold Treasure of the Late Roman Period.—In 1909 Mr. Charles L. Freer of Detroit purchased in Cairo several objects of gold of the late Roman period. Later other objects of a similar character were acquired by Mr. J. P. Morgan, by Mrs. Walter Burns of London, and by F. L. von Gans of Frankfurt. They date from the third to the sixth century A.D., but it is impossible to say whether or not they belonged to the same treasure. There are in all thirty-six objects, one a portrait statuette of rock crystal, the rest of gold. They consist of two pectorals each adorned with a medallion and coins, and with a second medallion which originally hung below; three small framed medallions which were once fastened together; seven necklaces; a breast chain; six earrings; two amulets; eleven bracelets; and a cross set with emeralds. Pearls, sapphires, emeralds, amethysts, glass paste and mother-of-pearl were used in this jewelry. A detailed study of this treasure is published by the late Professor WALTER DENNISON who completed his work shortly before his death. [*A Gold Treasure of the Late Roman Period.* By WALTER DENNISON. *Studies in East Christian and Roman Art, Part II.* Pp. 85-175; pls. 1-54; figs. 1-57. New York, 1918, Macmillan Company.]

Colors in Roman Ritual.—Miss MARY E. ARMSTRONG has investigated for her doctor's dissertation at Johns Hopkins University the significance of certain colors in Roman ritual. The colors examined and discussed are scarlet, purple, black and white, and gold. [*The Significance of Certain Colors in Roman Ritual.* By MARY EMMA ARMSTRONG. Menasha, Wisconsin, 1917, Banta. 52 pp. 8vo.]

Roman Industries.—In *Cl. Phil.* XIII, 1918, pp. 155-168, T. FRANK examines the data in *C.I.L.* XV for the manufacture of Arretine ware, glass, bricks, iron utensils, and water-pipes, as well as for the cutting of gems, to determine the scale of production in the several industries.

The Marriage of Roman Soldiers.—Down to the middle of the second century A.D. Roman soldiers were forbidden to marry as long as they remained in the army, but in spite of this prohibition many legal papyri show that

various measures were taken to legalize the unions actually contracted by the soldiers. In *C. R. Acad. Insc.* 1917, pp. 226-236, J. LESQUIER shows by citing various legal texts that from the time of Septimius Severus, probably from the year 197, marriage was permitted to soldiers who were citizens.

FRANCE

A Panther's Head from Alesia.—In *B. Soc. Ant. Fr.* 1916, p. 308, J. TOU-
TAIN calls attention to a panther's head of bronze found at Alesia in 1914. Its extreme length is 7 cm. and its height a little less. It was, perhaps, used to adorn a piece of furniture. Both the modelling and casting are good. The excavations of Alesia have yielded five bronzes which have artistic merit, a reclining Gaul, a weight in the form of a head of Silenus, a head of Juno, a Gallo-Roman bust, and this panther's head.

The Garden of the Mosaics at Lyons.—In *C. R. Acad. Insc.* 1917, pp. 262-273 (2 figs.), P. FABIA gives an account of the establishment of the "Garden of the Mosaics" at Lyons and its subsequent history.

Galic Arms and other Objects Found at Châtillon sur Indre.—In *R. Arch.* VI, 1917, pp. 321-327 (pl.), P. DE LISLE DU DRENEUC describes arms and other objects found near Châtillon sur Indre in 1886 and now in the museum of Nantes. They belong to the end of the second or the beginning of the third La Tène period (end of the second century B.C.). They are: (1) an anthropoid dagger, with iron blade and bronze handle and sheath; (2) a bronze oenochoe with a mask at the base of the handle; (3) a round plaque decorated with linear designs in relief; (4) a bronze *patella* with a handle ending in a swan's neck; (5) a large bronze basin; (6) two bronze rings; (7) much oxidized fragments of an iron sword; (8) seven large amphorae, much broken, only one of which could be preserved. The dagger is of especially fine workmanship. The *patella* is similar to that reproduced by Déchelette, Fig. 651.

NORTHERN AFRICA

The Ancient History of Northern Africa.—Professor GSELL has added to the first volume of his *Histoire ancienne de l'Afrique du Nord* (see *A. J. A.* XVIII, 1914, p. 246) the second and third volumes dealing with the Carthaginian state and the military history of Carthage. In Volume II he takes up in turn Carthage and her possessions in Africa, discussing the location of the city, its development, fortifications, harbors, public buildings, and cemeteries, and the extent of the Carthaginian domain in Africa; the government of Carthage, its constitution, and its political parties; and the administration of the Carthaginian empire, the army and the navy. In Volume III he discusses the wars with the Greeks of Sicily, the expedition of Agathocles, the First Punic War, the revolt of the mercenaries, the conquest of Spain, Hannibal and the invasion of Italy, Northern Africa in the time of Hannibal, Scipio and Hannibal, Carthage, Rome and Masinissa, and the end of Carthage. Three more volumes will complete the work. [*Histoire ancienne de l'Afrique du Nord.* Par STÉPHANE GSELL. II, *L'état carthaginois*, 475 pp., 5 plans; III, *Histoire militaire de Carthage*, 424 pp. Paris, 1918, Hachette et Cie. 8vo. 10 fr. each.]

Punic Ceramic Inscriptions.—In *R. Arch.* VI, 1917, pp. 348-355, EUSÈBE

VASSEL publishes four brief Punic inscriptions on pottery found at Carthage. The first, on an amphora found in a tomb of the seventh century B.C., reads Ger-Ba'al. This inscription is incised. The second, also of the seventh century B.C., is in ink and consists of four letters. The third is a potter's mark made by impression. It consists of two *bet*, reversed. The fourth is an epitaph written in ink on each of two vases from a tomb of the fourth or third century B.C. It reads To Šamar-Ba'al, son of Mel'art-Kal. A note by M. CLERMONT GANNEAU is added on page 356.

EARLY CHRISTIAN, BYZANTINE AND MEDIAEVAL ART

ITALY

Relics of the Miracle of Bolsena.—In *L'Arte*, XX, 1917, pp. 211-218 (6 figs.), A. SERAFINI describes two relics of the Mass of Bolsena preserved in the cathedral erected for the relics in Orvieto. Two fragments of linen are of historical interest, showing the use in the thirteenth century of the antique amict in clerical attire. Of more interest for art is another relic, *Una Borsa da Corporale*, executed in a magnificent thin stuff (*opere Lucano*) of silk and gold. Comparison with paintings by Duccio showing such material in the robes of figures, and with other examples of *opere Lucano* places its date in the early fourteenth century. It is probably Sienese work.

The Cathedral of Valva.—In *Rass. d' Arte*, XVII, 1917, pp. 169-178 (16 figs.), I. C. GAVINI describes the cathedral of Valva and the restorations made necessary by the earthquake of 1915. The foundation of the church is obscure, but its antiquity is attested by the legend of its titular saint, San Pelino. The architecture of the present complex, consisting of the Cathedral of San Pelino, the church or oratory of Sant' Alessandro, the episcopal palace, and the fortified tower united to Sant' Alessandro, is of the typical Abruzzese character derived from Montecassino. The builders were doubtless Benedictines who had come down from San Liberatore alla Maiella. Sant' Alessandro was built for the relics of Pope Alexander I martyred on the *Via Nomentana* in 119. It was built by the bishop Trasmondo who also began at the same time, 1075, the cathedral of Sulmona. This ecclesiastic was overthrown and imprisoned three years later, hence at Sulmona only the crypt is of his time. Here, however, it is not clear that Sant' Alessandro is, as Bertaux and others have supposed, merely the beginning, *i.e.*, the transept of a large church. It is too near the road for a developed nave and its bays are four in number, so that the low apse projecting from its side must be explained otherwise. At one end of this problematical passage-like structure is the tower, in part very ancient; at the other is the cathedral itself. This fine example of local architecture retains organically its original aspect though not untouched by baroque decoration. It was built by the bishop Gualterio (1104-1128) who is declared, on evidence now lost, to have dedicated it in 1124. Much of the sculptural decoration of doors and windows is preserved, as is an important twelfth century pulpit.

Lombard Architecture.—In *Gaz. B.-A.* XIV, 1918, pp. 35-46 (6 figs.), É. MÂLE reviews *Lombard Architecture* by A. K. Porter, emphasizing the debt of this architecture to the Orient and questioning the alleged priority of Italy in the development of vaulting and of sculpture. Mâle contends that eight or

ten supposedly eleventh century examples of ogival vaulting are actually a century later. He denies that the Modena inscription fixes the date of Guillemus at 1099 but prefers to date this master along with Nicolas about 1150. The art of both is derived from France, as is, moreover, that of Benedetto Antelami, for whom, in fact, besides early French training there is postulated a voyage to France as late as 1220, at which time he drew inspiration from sculpture just completed for his own work on the Parma baptistery begun, according to an inscription, in 1196.

The Davis Madonna.—In *Art in America*, VI, 1918, pp. 82-87 (pl.), P. C. NYE suggests a change in the attribution of the Davis Madonna in the Metropolitan Museum, New York. It bears the label, "Italian style of Giovanni Pisano, end of the thirteenth or beginning of the fourteenth century." The refined face, but poorly poised body, the doll-like Bambino, and the heavy drapery broken into fine folds point much more to the followers of Andrea Pisano, and particularly to his son, Tommaso Pisano as he expresses himself in his signed altarpiece of S. Francesco, now in the Campo Santo at Pisa. It, therefore, seems that a more just attribution of the work would read: School of Andrea Pisano, late fourteenth century; possible work of Tommaso Pisano.

GREAT BRITAIN

English Primitives.—In *Burl. Mag.* XXXI, 1917, pp. 233-234 (pl.; 2 figs.), W. R. LETHABY finds evidences of English derivation in the school of painting in Norway and Sweden, rather than of English and French derivation, which Mr. Lindblom defends. The altar frontals, numbers I and II from Nes, Norway, and that at Kinsarvik are examples of the English influence. Attention is also called to the close resemblance between the work of the St. Albans school and the drawings of Villars de Honnecourt.

RENAISSANCE ART

ITALY

The Art of Urbino.—In *L'Arte*, XX, 1917, pp. 259-293 (33 figs.), A. VENTURI discusses the style of three representative artists of Urbino in the second half of the quattrocento. Between these three, the painter, Piero della Francesca, the sculptor, Francesco Laurana, and the architect, Luciano Laurana, there exists a fraternity of spirit. Piero's paintings, *e.g.*, the diptych with the portraits and glorification of Federico da Montefeltro and Battista Sforza in the Uffizi, and the Flagellation in the Museum of Urbino, are calm and architectonic in composition, wholly lacking in movement, and in every detail of flesh, drapery, and marble transformed by the sun into a precious substance. Francesco Laurana's interest, as exemplified in a fireplace and doorway of the Urbino ducal palace and two bust-portraits of Battista Sforza (one in the Florence Bargello, the other in the Museum of Oliveriano in Pesaro), is not in movement, but in calm, architectonic effect. The bust in the Bargello is just as impersonal as Piero's Madonna and the one in Pesaro seems to have been copied from Piero's paintings of the same model. Luciano Laurana is well represented by his work in the ducal palace of Urbino. The calm simplicity of his style of architecture is emphasized by contrasting

it with the work of immediate predecessors, the nervous, agile style of Brunelleschi and the ornamental monumentality of Alberti.

A Sienese Little Master.—An interesting group of paintings by a tenth-rate Sienese artist is published by B. BERENSON in *Art in America*, VI, 1918, pp. 69–82 (8 figs.). The striking peculiarities of an unsigned triptych in the Metropolitan Museum led to the recognition of the marks of the same master in a triptych in the collection of Mr. Charles Loeser, Florence, a Madonna in the Liechtenstein Gallery, an assumption in S. Maria, Bettona, two panels in the Spello Library, and a fresco in S. Giovenale, Orvieto. The diptych in the Spello Library furnishes the name of the painter of the group. It is signed Cola Petruccioli of Orvieto and dated 1385. Cola di Petruccioli, who is rather an interesting craftsman than an artist, is strongly influenced in his works by Andrea Vanni, Bartolo di Fredi, and Fei. The relative proportions of the influence of these masters in the various paintings help in establishing their chronological order.

A Sienese Series of Greek and Roman Heroes.—Representations of the "Famous Men" began to be used in the fifteenth century as examples of civil and military virtue. To about the year 1500 belongs a series of six heroes painted by four different artists. Claudia, in the Dreyfus collection in Paris, is by Neroccio; Sulpicia, in the Walters collection in Baltimore, is by Giacomo Pacchiarotto; Scipio, in the Carrand collection, Florence, is by Francesco di Giorgio Martini; and the other three, Tiberius Gracchus in the gallery of Buda-Pesth, Alexander the Great in Sir Frederick Cook's collection at Richmond, and an unnamed hero in the possession of the Dowdeswell brothers, are the work of an anonymous artist who is a confirmed Sienese, although more Umbrian in style. This *anonimo* is responsible also for the landscape of the Claudia and the landscape and pedestal of the Scipio, and he is to be identified with the painter of the Story of Griselda in the National Gallery, Nos. 912–914. (G. DE NICOLA, *Burl. Mag.* XXXI, 1917, pp. 224–228; pl.)

New Paintings by Lippo Vanni.—It is only recently that Lippo Vanni has become to art students more than a mere name. In *Rass. d'Arte*, XVII, 1917, pp. 97–100 (pl.; 3 figs.), B. BERENSON now adds two triptychs to his credit, one, with the Madonna and Saints, in the collection of H. Walters, Baltimore, the other, with three Saints, in the Vatican. Comparison with authentic works by the artist, *e.g.*, the triptych in the church of SS. Domenico e Sisto in Rome, proves the origin of these two paintings. The Baltimore triptych bears close relationship to the work of Pietro Lorenzetti, and because of that influence is probably to be assigned to the last years of Lippo's activity. The Vatican triptych and also a Madonna in the Perugia gallery, which is undoubtedly by the same artist, show signs of their author's contact with Florence. The type and character of the face of the Perugia Madonna remind one of Taddeo Gaddi. The action and composition of the large triptych seem at first sight to follow the formula of Ambrogio Lorenzetti, and a more careful study reveals in the modelling and in the treatment of the drapery contact with Bernardo Daddi, the most Sienese of all the Florentines.

Pellegrino da Modena.—Thanks to Venturi, the Emilian Pellegrino degli Aretusi "alias Munari" is no longer a myth. In *L'Arte*, XX, 1917, pp. 199–210 (7 figs.), G. Frocco publishes paintings which illustrate him in that part of his career when he was a follower of Raphael. A drawing of the Madonna

with Saints in the Academy of Venice and the frescoes in S. Giacomo degli Spagnuoli, Rome, are of special interest. They represent him as no mediocre disciple of Sanzio and as worthy of the praise Vasari bestows upon him.

Mantegna at Rome.—In *Rass. d'Arte*, XVII, 1917, pp. 195–201 (5 figs.), G. FRIZZONI writes on Mantegna's two years (1488–90) of activity in Rome. His principal work in the Eternal City was the decoration of the little chapel of Pope Innocent VIII dedicated to St. John the Baptist. The chapel was torn down in recent times by Pius VI in order to enlarge the Vatican museum. This renders important the detailed description of the chapel's exquisite decoration given in a Roman publication of 1767 entitled *Nuova descrizione del Vaticano, ossia del palazzo apostolico di San Pierro, data in luce da Gio. Pietro Chattard*. Another work executed, according to Vasari, by Mantegna during his residence in Rome is the Madonna and Child in the Uffizi. Studies for the figures in the Triumph of Caesar were evidently made while the artist was in this atmosphere of antiquities. Finally, among other interesting bits of information gleaned from Mantegna's correspondence during these years is the mention of his intention to paint a portrait of the Turkish prince, Djem, brother of Sultan Bajazet, then in Rome. Whether this intention was carried out is uncertain.

Mino da Fiesole at Rome.—In *Gaz. B.-A.* XIV, 1918, pp. 75–86 (6 figs.), J. ALAZARD studies the works executed by Mino da Fiesole at Rome. On the first sojourn, 1463, he was one of the first masters employed on the important throne of St. Peter commissioned by Pius II. Returning for a long stay, probably about 1474–1480, he did the reliefs for the altar of St. Jerome formerly in S. Maria Maggiore, inorganic and feelingless; the monument of Paul II in the Vatican Grotto and a tabernacle at S. Marco, both with the coöperation of Giovanni Dalmata; and the tomb of Francesco Tornabuoni at S. Maria sopra Minerva, the best example of his art in Rome. But Rome can by no means be considered the centre of his activity; that was Florence. And such Roman sculptures as the tombs of Nicolas Fortiguerra at S. Cecilia in Trastevere and of Cristoforo della Rovere at S. Maria del Popolo; the low reliefs signed "*opus Mini*" of apse and sacristy of S. Maria Maggiore; the tabernacle likewise signed "*opus Mini*" at S. Cecilia in Trastevere can no longer be ascribed to this master. The latter two may be by Mino del Regno since they are Roman, not Tuscan in style.

A Cassone Front by Girolamo da Cremona.—In *R. Arch.* VI, 1917, pp. 369–373 (2 figs.), B. BERENSON ascribes to Girolamo da Cremona, and to a date soon after 1475, a cassone front in Havre, representing the Rape of Helen. Parallels with other works of Girolamo are evident, and the approximate date is suggested by the influence of Francesco di Giorgio which pervades the work.

A Portrait by Andrea Solario.—In *Art in America*, VI, 1918, pp. 88–95 (4 figs.), A. COLASANTI offers proof of the incorrectness of the description of a male portrait by Andrea Solario in the Boston Museum of Fine Arts. It is there labeled as a portrait of Giovanni II Bentivoglio. A comparison of the painting with medals and coins reproducing the features of that prince and especially with paintings of him by Lorenzo Costa and the relief by Antonio Bal gives convincing evidence that the Boston portrait is not of Giovanni. Whom it does portray, however, is a question that is not yet answered.

Leonardo da Vinci Painter of Horses' Armour.—Painting horses' armour

seems to have been a not unusual occupation for artists in Italy during the Renaissance. The fact that such painters as Timoteo Viti and Francesco Francia executed such commissions, together with the fact that Leonardo da Vinci did not disdain to work in the minor arts, as his sketches show, has led to the conjecture that this master also may have been a painter of *barde*. In *Rass. d'Arte*, XVII, 1917, pp. 129-130, L. BELTRAMI publishes a document of 1495 which mentions a commission being carried out for Lodovico il Moro by Costantino da Vaprio and Leonardo—apparently Leonardo da Vinci.

Sculptures by Donatello and Desiderio.—In *Rass. d'Arte*, XVII, 1917, pp. 153-160 (6 figs.), G. DE NICOLA writes on Donatello's Judith and Desiderio's Madonna Panciatichi, which have lately, as a war-time precaution, been removed from their exposed situations. With the Judith group lowered from its base close examination of both group and base is facilitated and photographing the two sides of the base hitherto partly hidden by the legs of Holofernes is possible. The hypothesis that the group was originally intended for a fountain is borne out by examination. Further, it becomes clear that the base was made originally by Donatello for this group, and not, as has been supposed, for his David. The work apparently belongs to the middle period of Donatello's career and shows no little classical influence. Prototypes for all three bas-reliefs of the base are to be found among classical works. An interesting one is the Roman sarcophagus in the Pisan Campo Santo with a composition which must have inspired Donatello's winepress. With Desiderio's Madonna Panciatichi are connected as preparatory sketches two drawings in the Uffizi formerly ascribed to Donatello. Aside from their evident connection with the Panciatichi relief, however, they show clearly the characteristics of Desiderio.

Two Works of Venetian Sculpture.—A painted wooden statue of St. Sebastian from the Davanzati Palace collection and now belonging to Mr. G. G. Barnard of New York is published by A. MARQUAND in *Art in America*, VI, 1918, pp. 53-60 (2 figs.). The work is particularly valuable for the expression of the martyr's pathetic but calm faith. The statue shows sufficiently close relationship to the shield-bearers of the tomb of Giovanni Emo produced about 1483 by Antonio Rizzo to be attributed to the same atelier, if not to the same hand. A Venetian balcony, or loggia screen, now in Princeton, belonging to Professor Marquand is of the same period and school. The piece is similar to the fine Venetian balcony on the façade of the Palazzo Bragadin. Some parts of the Princeton work are modern and the present form of restoration is incorrect. The two fine heads that mark the central portion of the balcony



FIGURE 3.—AN ANGEL:
LUCCA.

are Gothic modes of decoration, but, at the same time, they are portrait-like in character and probably represent the owners of the house.

Sculptures of the School of Niccolo Pisano.—Several interesting works from the school of Niccolo Pisano are published by P. TOESCA in *Rass. d'Arte*, XVII, 1917, pp. 93-96 (pl.; 4 figs.). One of these, an angel in the museum of Lucca (Fig. 3), is identified as the work of one of the aids of Niccolo who worked on the Pisan pulpit. Particularly, one of the figures among the Liberal Arts represented on that pulpit shows the same characteristics, broad features and summary modelling. A lovely female figure (Fig. 4), probably a saint, in the Boboli Gardens, Florence, is perhaps the work of Arnolfo di Cambio. If it is by him, it belongs to his latest period, of which we have no certain example, for it shows him completely freed from Gothic characteristics. Though not by the same master, a relief of the Annunciation in the South Kensington Museum reflects the peculiarities of the style of Arnolfo.



FIGURE 4.—A SAINT: BOBOLI GARDENS, FLORENCE.

Bramante and Leonardo.—In *Rass. d'Arte*, XVII, 1917, pp. 187-194 (4 figs.), L. BELTRAMI throws light upon the question of the activity of Bramante and Leonardo as engravers. Though examples in this art have long been assigned to them, no documentary proof has hitherto been found. But one engraving, in the Casa Perego, has stood the test of critics as from the hand of the great architect. It is a large representation of an interior with figures, signed BRAMANTE S. FECIT IN MLO. A document, dated 1481, is now presented which clearly refers to this work as done by an engraver by the name of Bernardo

Prevedari from a drawing by Bramante. Now the question arises as to whether this same obscure Prevedari who so sympathetically reproduced Bramante's design may not have been the author also of the engravings which bear

such strong Leonardesque marks, or perhaps they are the work of another equally unknown professional engraver. It seems likely that as regards the association of painting and engraving in one artist critics have made the mistake of considering Mantegna as the rule, whereas he is rather an exception.

The Incoronata at Lodi.—In *L'Arte*, XX, 1917, pp. 219–239 (15 figs.), A. FORATTI treats of the early architectural achievement of Bramante, the Incoronata at Lodi, with especial regard to its structural problems. The contract for this church is dated May 20, 1488, and it becomes on fuller study the axial point in Bramante's development in his Lombard period.

Aquilan Goldsmith's Work.—In *Rass. d'Arte*, XVII, 1917, pp. 161–168 (13 figs.), P. PICCIRILLI continues his studies on the goldsmith's art of Aquila. Having already treated of the earlier and more flourishing period (*ibid.* June, 1916), he now discusses works of the last period of this art (from the sixteenth to the eighteenth century). By the middle of the sixteenth century the Aquilan school, already impoverished, had gone for new inspiration to Rome, attracted by Michelangelo, Cellini, and others. Just when the Aquilan corporation adopted the new style and abolished stamping is hard to determine; but that the change had been made by the end of the first half of the sixteenth century is shown by dated examples. Among these, the most important is the processional cross of the Chiesa Madre of Fossa, dated, 1557. It is of silver and gilded copper, beautifully and elaborately decorated with both low and high reliefs of single figures and more complicated compositions.

A Ferrarese Marriage Salver.—In *Gaz. B.-A.* XIII, 1917, pp. 447–466 (pl.; 16 figs.), B. BERENSON reattributes the marriage salver recently acquired by the Boston Museum of Fine Arts (cf. *A.J.A.* XXI, 1917, p. 358). On the front of the tray is represented the meeting of Solomon and the Queen of Sheba; on the back is a winged putto with two horns of plenty. In its Renaissance solution of problems in perspective and architecture, as well as in all details of form, the painting bears such close similarity to the works of Cossa and Tura as easily to admit of ascription to the school of Ferrara. Berenson's former ascription to Matteo di Giovanni, made before the frontiers of the various schools were distinctly determined, is accounted for by the proximity of that Siennese's manner to the style of the Ferrarese school. Sirén's attribution of the tray to Boccatis da Camerino, an artist far less advanced than the author of this work appears, is untenable.

Illuminated Manuscripts.—In *Rass. d'Arte*, XVII, 1917, pp. 117–128 (11 figs.), P. TOESCA publishes several miniatures from manuscripts in the Corsini Library, Florence. One of these manuscripts, executed for Cardinal Piero Corsini at the end of the fourteenth or beginning of the fifteenth century, probably at Avignon, shows a Franco-Flemish treatment in the figure compositions, with some Italian influence in the ornamental borders. A more important book of hours, Franco-Flemish in style, apparently comes from northern France and belongs to about the same period as the preceding. Its principal figure subjects connect their author with the Limbourg brothers. The decoration of a missal from the Parish of S. Pietro in Mercato—the principal subject is the Crucifixion—is the work of a follower of Lorenzo Monaco. A large anthem book from the monastery of S. Gaggio, written and illuminated by the monks of that convent, is particularly interesting for its elaborate

initials that reflect the manner of Fra Angelico and are probably to be attributed to the miniature painter Battista di Biagio Sanguigni.

Early Art Criticism in Italy.—Asserting the inconsistency of the prevalent conceit that only after the glory of the art activity had passed did its criticism begin, L. VENTURI writes in *L'Arte*, XX, 1917, pp. 305–326 (5 figs.), on the art critics of the fourteenth and fifteenth centuries in Italy. In the fourteenth century trecento art was appreciated for its own sake. Villani, Boccaccio, Petrarch, and later Ghiberti, who was in spirit essentially of the trecento, have sympathetically criticized the work of Giotto and his contemporaries. They reflect the true spirit of their age, while critics of the quattrocento take only a historical interest in Giotto's art. As commentators on their own century, however, we have valuable examples in Manetti, Alberti, Filarete, Fazio, and Landino. At the head of the group stands Alberti, who by virtue of his qualifications as painter, sculptor, architect, philosopher, writer, and, above all, man of genius, was able to synthesize, and so not merely criticize what had been done, but also suggest new lines of artistic activity. He is unique in the history of criticism—if Ruskin be excepted; certainly he stands alone in the criticism of the Italian quattrocento. The value of these early critics is more fully appreciated by comparison with Vasari. Far better than he, in spite of his unassailable position, they understood the essence of the art of their centuries. Beside their criticism of the fourteenth and fifteenth century art that of the three succeeding centuries, with few exceptions, appears superficial and academic.

Bernardo Cavallino.—In *Rass. d'Arte*, XVII, 1917, pp. 179–186 (6 figs.), A. DE RINALDIS writes on the art of Cavallino, a Neapolitan artist of the first half of the seventeenth century. The fact that he has remained obscure is probably due principally to the scarcity of his works in museums. Only recently a number of his canvases have come into important public galleries. Cavallino's principal worth lies in his simplicity of composition, plasticity of figure, and charm of chiaroscuro. The highest expression of these qualities is reached in the representation of the Death of St. Joseph now in a private collection.

The Villa "Favorita."—A historical sketch of the sumptuous Villa Favorita, a production of the most extravagant days of the dukes of Mantua, is given by G. PACCHONI in *L'Arte*, XX, 1917, pp. 327–336 (7 figs.). It was a pleasure house built in the early seventeenth century under the direction of Ferdinando Gonzaga with a purpose similar to that of the French Versailles. It is the only distinctive work, even partially extant, by the Swiss architect Nicolò Sebregondi. The style of the work is far from that diffused by the school of Palladio and from that of Giulio Romano. While it is clearly derived from Michelangelo, it is a new product, containing an addition to the artistic customs which the pupils of Giulio Romano formed and diffused. Nothing was spared in multiplying the details of ornament. Documents show that the duke had many changes made during the progress of the work, always to add more grandeur to the effect. Many of the numerous contracts, however, with important painters from Rome and other cities for mural decorations were never carried out, and the duke had to content himself with paintings bought by his agents in Rome. Unfortunately, the villa, already badly injured before the end of the seventeenth century, has now been entirely aban-

done, and unless care is taken speedily for its preservation, a work important in itself and unique as an example of the tragically mistreated and fast disappearing monuments of a sumptuous age, will be entirely lost.



FIGURE 5.—THE VILLA MEDICI, ROME, BY VELASQUEZ.

SPAIN

The Castle of Belmonte (Cuenca).—In *B. Soc. Esp.*, XXV, 1917, pp. 169–176 (11 figs.), V. LAMPÉREZ Y ROMEA describes the romantic old Gothic castle of Belmonte, which dates from 1456 and is a good example of Spanish military architecture.

New Documents on Peliguet.—In *B. Soc. Esp.*, XXV, 1917, pp. 177–179, M. ABIZANDA Y BROTO reports a number of new facts extracted from archival sources concerning the sixteenth century Spanish painter Tomás Peliguet or

Peligret. These give besides various commissions and their terms the information that the artist was a native of Italy.

Velasquez in Italy.—In *Rass. d'Arte*, XVII, 1917, pp. 106–116 (8 figs.), G. FRIZZONI writes on Velasquez's second sojourn in Italy. While the first visit, twenty years before, had been made for study, the second was undertaken principally for business purposes. Velasquez went with the intention of procuring for King Philip IV paintings by some of the most important Italian—particularly Venetian—artists. How successful he was may be judged by the fine examples of Tintoretto, Titian, Paolo Veronese, and others in Madrid today. Another part of his work consisted in selecting antique sculptures to be copied for the Madrid collection, and in securing artists to execute decorative work in the Spanish palace. But he also painted some important pictures while in Italy, among them the famous portrait of Pope Innocent X and the landscape paintings of the Villa Medici (Fig. 5). The latter are frequently attributed to Velasquez's earlier visit to Italy, but the largeness and power of the technique belong to his later development.

FRANCE

Jacques Callot.—In *Gaz. B.-A.* XIV, 1918, pp. 47–74 (12 figs.), J. LIEURE adds important notes to the current knowledge of Jacques Callot. Besides the commonly recognized influences upon Callot's art, viz., Tempesta and Villamena, there are the influences of Parigi, Leonardo da Vinci, Giulio Romano, Cort, Goltzius, Swartz, Johann Sadeler, and various Flemish landscape painters. Callot took great pains with his preliminary designs, even painting them. His influence upon other artists was far reaching, not only upon such direct followers as Bella, Bosse, Collignon, Mellan, and Cochin, but upon such independent masters as Rembrandt and Watteau, both Teniers, Claude, etc. Jacques Fagnani, a Paris dealer, had collected by 1723 a large collection in three volumes folio of more than a thousand examples of Callot's work; in 1730 this went indirectly to the Abbé de Chancey and in 1731 with him to the Cabinet des Estampes. A large number of additions are made to previous catalogues of Callot's works.

Fouquet's Collection.—In *Gaz. B.-A.* XIV, 1918, pp. 87–92 (3 figs.), C. GABILLOT calls attention to some sketches of François Girardon in the Archives Nationales. When Fouquet was condemned and his property confiscated, his wife managed to save considerable for the family, and among other things at Vaux a number of marbles which the king desired to purchase. A disagreement arose as to price and Girardon was sent to make an appraisal, which with hasty notes and sketches is preserved. The works themselves, however, have disappeared in spite of their interest.

HOLLAND

Early Works by Rembrandt.—In *Art in America*, VI, 1918, pp. 118–123 (2 pls.), are published three paintings listed in Dr. Valentiner's *Art of the Low Countries*, but hitherto unpublished. Two of these, in the collection of Mr. J. D. Mcllhenny of Philadelphia, are portrait studies of the head of Rembrandt's father and must have been painted in 1629 or 1630. The third painting, formerly in the collection of the late Wm. M. Chase, represents an artist

in his studio. While its attribution to Rembrandt is uncertain, it exhibits a strong claim to that paternity and is to be dated about 1626.

Paintings by Jerome Bosch in America.—In *Art in America*, VI, 1918, pp. 3–20 (pl.; 10 figs.), F. J. MATHER, JR., offers a study of the works of Jerome Bosch, particularly as they are represented in the collection of the late Mr. Johnson of Philadelphia. An Adoration of the Magi, in the Metropolitan Museum retains some of the monumentality of the earlier Burgundian masters and is probably one of Bosch's earliest works, dating about 1480. Another representation of the same subject in the Johnson collection is apparently a studio replica, executed in great part by the artist himself, of the rustic type perfected in the famous triptych of the Prado. And a more eager and intimate version of the theme is seen in another Johnson picture of rural idyllism. Closely related to this are two wings from a triptych of an Adoration in the same collection. More characteristic of the master are his representations of diabolism. His cool, calculating manner in this field is well illustrated in the Christ before Pilate at Princeton, while the lack of these features in the portrayal of the same subject in the Johnson collection leads to doubt of the authenticity of the latter. Here the artist has most successfully caught the wolf-like character of the human pack, and, unlike Bosch, he is swayed by the horror of his own inventions. The author of this piece is to be identified with the painter of the Fantastic Landscape in the Prado, which is ascribed to Peter Huys. The Princeton painting, however, and two Johnson compositions, Mocking of Christ, and Christ Among the Doctors (the last entirely unknown to critics), are fine specimens of the kind of work in which Bosch gained most fame. They are superb studies in physiognomy. The concentrated arrangement of the first of these, where the whole composition consists of a group of heads, is the natural culmination of the development traced by a physiognomist. A comparison of this picture with a sheet of Leonardo's caricatures at Windsor gives convincing proof that in this sheet we have the starting point for the Princeton masterpiece. A representation of pilgrims in the collection of Mr. J. P. Morgan, published here for the first time, is an example of Bosch's drawings, which are of great rarity.

GREAT BRITAIN

Portraits of King Henry VIII.—In *Burl. Mag.* XXXI, 1917, pp. 217–224 (2 pls.), L. CUST shows the incorrectness of the popular conception of the portraiture of the time of King Henry VIII, namely, that it is all attributable to Holbein or his school. Very few extant portraits of Henry VIII are the work of Holbein, and all of these were done after the king had reached the age of forty-five, and so do not show him in the prime of life, when he inspired admiration as an unusually handsome man. The paintings of this king that can safely be attributed to Holbein comprise only the portrait at Althorp, the mural painting at Whitehall, as shown in the cartoon at Chatsworth, and the portrait in the National Gallery at Rome, with the drawing at Munich as the probable original study. On the Whitehall and Munich originals were based many contemporary and later versions by other artists.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

Origin and Types of Mounds in the Eastern United States.—In *Proceedings of the Nineteenth International Congress of Americanists*, pp. 43-47 (pl.), D. I. BUSHNELL records the various types of aboriginal mounds in the United States, giving the distribution of each type.

The Art of the Mound-Builders of Ohio.—In the *Annual Report of the Smithsonian Institution for 1916*, pp. 489-500 (13 pls.; 2 figs.), C. C. WILLOUGHBY argues that the famous Serpent Mound in Adams County, Ohio, represents a serpent combined with the cosmic symbol. The projection at the extreme end of the outer oval is the serpent's tongue, and the two openings above and below are analogous to openings in other mounds and may represent two arms of the cosmic cross. The inner oval enclosed an altar where fires symbolized the sun. The mound-builders were skilled workers in copper and many axes and adzes, as well as ornaments, of copper have been found. Sometimes they overlaid thin sheets of copper, silver, or meteoric iron upon a core of clay or wood. Copper ear plugs were common. Meteoric iron was worked into headplates, breastplates, adze-blades, chisels, drills, etc. Silver was used principally for overlaying copper. They were skilled engravers of bone, often producing intricate patterns. Among other things discovered in the mounds are ornaments of mica, sometimes partially painted, tobacco pipes of stone, unidentified hollow stone objects representing birds, beetles, etc., small ornaments of ivory from fossil mammoth tusks, and stone rings made by means of a rude lathe. The textile fabrics were of the woven twine variety and did not differ materially from those of other tribes.

Mounds, Caverns, and Artifacts in Tennessee.—Three important papers dealing with the archaeology of Tennessee have recently been published. The first of these (by G. G. MACCURDY, *Proceedings of the Nineteenth International Congress of Americanists*, 1917, pp. 59-74; pl.; 41 figs.) is compiled from the notes and letters of Rev. E. O. Dunning who made extensive excavations about forty-five years ago for Harvard and Yale. His collection of artifacts from the region is likewise described. The second paper (*Id.*, *ibid.* pp. 75-95; 10 pls.; 55 figs.) deals with the large Tennessee collection in Wesleyan University. In both papers pottery vessels; and many elaborately carved shell gorgets are figured. The third paper (by W. E. MYER, *ibid.* pp. 96-102; 7 pls.; 4 figs.) describes the various artifacts and the mounds, rock shelters, and caves of the Cumberland valley.

Stratification of Cultures in the Delaware Valley.—For many years there has raged a bitter discussion in regard to the supposed stratification of cultures in the Delaware valley. The first announced discoveries of this sort were made in 1872 by Charles Conrad Abbott, who published several papers in the *American Naturalist*, the *Reports of the Peabody Museum for 1876 and 1877*, *Primitive Industry* (1881), *Archaeologia Nova Caesaria* (1907-1909), and *Ten Years' Digging in Lenape Land* (1912). Other papers by F. W. Putnam, G. F. Wright, C. C. Haynes, E. Volk, and others supported his position, while he was disputed by W. H. Holmes, A. Hrdlicka, H. C. Mercer, and others. The most recent investigators seem to have established some of his contentions beyond reasonable doubt. In the words of one of these "at all the sites

excavated the artifacts of the recent Indians, and those of the ancient inhabitants, occurred in sharply differentiated strata, the former being associated with the recent soil, the later with the yellow and white sand layers." These later beds are considered as of probably glacial antiquity. (J. V. LEWIS, *American Anthropologist*, N. S. XVIII, 1916, pp. 198-202; pl.; E. W. HAWKES, and R. LINTON, *ibid.* XIX, pp. 487-494; 6 pls.; fig.; L. SPIER, *ibid.* XVIII, 1916, pp. 181-189; 4 figs.; C. WISSLER, *ibid.* XVIII, pp. 190-197; A. SKINNER, *Proc. Nineteenth Inter. Cong. Americanists*, Washington, 1917, pp. 52-58, 6 pls.)

Cultural Stratification in New Mexico as Illustrated by Pottery.—In *Am. Anth.* XIX, 1917, pp. 325-360 (2 pls.; 2 figs.), A. V. KIDDER contributes a paper on the pottery of Pecos in which he continues the discussion previously begun ('Pottery of the Pajarito Plateau and of Some Adjoining Regions in New Mexico,' *Memoirs of the American Anthropological Association*, II, Pt. 6, October, 1915, pp. 407-462, 15 pls.; 12 figs.) about the chronological relations of the different types of pottery in the pueblo area—a discussion in which N. C. NELSON has also been an important figure (*Am. Anth.* XVIII, 1916, pp. 159-180, pl.; 2 figs.). These investigators have found several types of pottery which differ in color, ornamentation, glaze, paste composition, and general construction. These types present a time relationship to each other which is fairly uniform at all the different sites. Similar conditions in regard to stratification and relative chronology of different sites have been found in the Zuni area by Kroeber and Slier (*Am. Mus. Nat. Hist., Anthrop. Papers*, XVIII, 1916-1917, pp. 1-37; 207-331; 18 figs.; bibliography). For the San Juan valley, Kidder finds a similar stratification of cultures—the three main types being the "Basket-maker," the slab-house culture, and the Kiva-culture (*Proceedings of the Nineteenth Congress of Americanists*, 1917, pp. 108-113). Similarly in the Tano district, Nelson finds this cultural stratification (*ibid.* pp. 114-118).

Fishing Implements of the Ontario Indians.—In the *Twenty-ninth Annual Archaeological Report* of the Ontario Provincial Museum, 1917, pp. 24-43 (23 figs.), R. B. ORR describes the fishing implements of the Ontario Indians.

Indian Agriculture.—Five works have appeared recently dealing with Indian agriculture. The first three in the list deal primarily with the archaeological phases of the matter, while the last two are more general. All are concerned with the grains raised by the Indians, the varieties of these, the methods of their cultivation and use, the implements used in their preparation, and the illustrations of these things in their arts. The first and third papers deal with distributions, while the others are more concerned with individual areas. The names of the papers follow:

W. E. SAFFORD, 'Food Plants and Textiles of Ancient America,' *Proceedings of the Nineteenth International Congress of Americanists*, Washington, 1917, pp. 12-30 (3 pls.; 14 figs.); W. E. SAFFORD, 'A Forgotten Cereal of Ancient America,' *ibid.* pp. 286-297 (2 pls.; 4 figs.); H. J. SPINDEN, 'The Origin and Distribution of Agriculture in America,' *ibid.* pp. 269-276 (3 pls.); G. F. WILL and G. E. HYDE *Corn among the Indians of the Upper Missouri*, St. Louis, 1917, 323 pp. (22 pls.); G. F. WILSON, 'Agriculture of the Hidatsa Indians,' *University of Minnesota Studies in Social Science*, No. 9, Minneapolis, 1917, 129 pp.; 5 pls.; 40 figs.

Quill Work of the American Indian.—In *Mus. J.* IX, 1918, pp. 50–58 (colored pl.; 5 figs.), B. W. M(ERWIN) describes typical examples of the quill work of the American Indian.

The Use of the Banner Stone.—In *New York State Museum Bulletin*, No. 196, April, 1917, pp. 165–176 (5 pls.; 3 figs.), A. C. PARKER discusses the purposes of the so-called banner stone and gives the various types which are found in New York. Among the possible uses, he suggests their employment on staffs or handles or as spindle whorls for drills or fire-making implements.

Supposed Pleistocene Man at Vero.—In *Am. Anth.* XX, 1918, pp. 1–36, OLIVER P. HAY contributes an important article to the discussion of the supposed case for the existence of man in the Pleistocene period in America. The complete bibliography of papers upon this subject follows:

EDWARD W. BERRY, 'The Fossil Plants from Vero, Florida,' *Ninth Annual Report*, Florida State Geological Survey, 1917, pp. 19–33; EDWARD W. BERRY, 'The Fossil Plants from Vero, Florida,' *Journal of Geology*, XXV, No. 7, Chicago, Oct.–Nov., 1917, pp. 661–666; ROLLIN T. CHAMBERLIN, 'Interpretation of the Formations Containing Human Bones at Vero, Florida,' *ibid.* XXV, No. 1, Chicago, Jan.–Feb., 1917, pp. 25–39 (9 figs.); ROLLIN T. CHAMBERLIN, 'Further Studies at Vero, Florida,' *ibid.* XXV, No. 7, Chicago, Oct.–Nov., 1917, pp. 667–683 (5 figs.); OLIVER P. HAY, 'The Quaternary Deposits at Vero, Florida, and the Vertebrate Remains Contained Therein,' *ibid.* XXV, No. 1, Chicago, Jan.–Feb., 1917, pp. 52–55; OLIVER P. HAY, 'On the Finding of Supposed Pleistocene Human Remains at Vero, Florida,' *Journal, Washington Academy of Sciences*, VII, June 4, 1917, pp. 258–260; OLIVER P. HAY, 'Vertebrata Mostly from Stratum No. 3 at Vero, Florida; together with Descriptions of New Species,' *Ninth Annual Report*, Florida State Geological Survey, 1917, pp. 43–68 (pl.); OLIVER P. HAY, 'Further Considerations of the Occurrence of Human Remains in the Pleistocene Deposits at Vero, Florida,' *Am. Anthr.*, N. S., XX, No. 1, Jan.–Mar., 1918, pp. 1–36; W. H. HOLMES, 'On the Antiquity of Man in America,' *Science*, N. S., XLVII, No. 1223, June 7, 1918, pp. 561–562; ALES HRDLICKA, Preliminary Report on Finds of Supposedly Ancient Human Remains at Vero, Florida,' *Journal of Geology*, XXV, No. 1, Chicago, Jan.–Feb., 1917, pp. 43–51 (2 figs.); GEORGE GRANT MACCURDY, 'Archaeological Evidences of Man's Antiquity at Vero, Florida,' *ibid.* XXV, No. 1, Chicago, Jan.–Feb., 1917, pp. 56–62 (6 figs.); GEORGE GRANT MACCURDY, 'The Problem of Man's Antiquity at Vero, Florida,' *Am. Anthr.*, N. S., XIX, No. 2, Apr.–June, 1917, pp. 252–261 (8 figs.); E. H. SELLARDS, 'On the Discovery of Fossil Human Remains in Florida in Association with Extinct Vertebrates,' *American Journal of Science*, Fourth Series, XLII, pp. 1–18, July, 1916 (12 figs.); E. H. SELLARDS, 'Human Remains from the Pleistocene of Florida,' *Science*, N. S., XLIV, No. 1139, Oct. 27, 1916, pp. 615–617 (fig.); E. H. SELLARDS, 'Human Remains and Associated Fossils from the Pleistocene of Florida,' *Eighth Annual Report*, Florida State Geological Survey, Oct., 1916, pp. 121–160 (17 pls.; 15 figs.); E. H. SELLARDS 'On the Association of Human Remains and Extinct Vertebrates at Vero, Florida,' *Journal of Geology*, XXV, No. 1, Chicago, Jan.–Feb., 1917, pp. 4–24 (4 figs.); E. H. SELLARDS, 'Further Notes on the Human Remains from Vero, Florida,' *Am. Anthr.*, N. S., XIX, Apr.–June, 1917, pp. 239–251 (5 figs.); E. H. SELLARDS, 'Review of the Evidence on which the Human Remains Found at Vero are Referred to the Pleistocene,' *Ninth Annual Report*, Florida State Geological Survey, 1917, pp. 69–81 (2 pls.; fig.); E. H. SELLARDS, 'Note on the Deposits

Containing Human Remains and Artifacts at Vero, Florida,' *Journal of Geology*, XXV, No. 7, Chicago, Oct.-Nov., 1917, pp. 659-660; E. H. SELLARDS, 'Supplement to Studies in the Pleistocene at Vero, Florida,' *Ninth Annual Report*, Florida State Geological Survey, 1917, pp. 141-143; R. W. SHUFELDT, 'Fossil Birds Found at Vero, Florida, with Descriptions of New Species,' *Ninth Annual Report*, Florida State Geological Survey, 1917, pp. 34-42 (2 pls.); F. H. STERNS, 'The Pleistocene Man of Vero, Florida,' *Scientific American Supplement*, No. 2214, June 8, 1918, pp. 354-355, with bibliography; THOMAS WAYLAND VAUGHAN, 'On Reported Pleistocene Human Remains at Vero, Florida,' *Journal of Geology*, XXV, No. 1, Chicago, Jan.-Feb., 1917, pp. 40-42.

The finds under discussion were made by E. H. Sellards, state geologist of Florida. They consist of human bones, and artifacts in association with fossil plants and animals. The discoverer judges the remains to be of Pleistocene age, and he is supported in this contention by Berry, Hay, and Shufeldt. Vaughan expresses doubts, but he is generally favorable. Chamberlin acknowledges the human remains to be of the same age as the deposit, but he considers this to represent a secondary concentration of fossils, and hence to be not necessarily of Pleistocene age. MacCurdy thinks the fauna which is undoubtedly Pleistocene elsewhere may have survived later in the favorable climate of Florida, and hence the deposits may be of recent age. Hrdlicka claims the human remains are from a normal burial of recent times. The archaeological phases of the question are discussed by Sellards, Hrdlicka, and MacCurdy. The geological side as related to the archaeological question is handled by Sellards, Chamberlin, Hay, and Vaughan, while the identification of the age of the beds by their fossil contents is discussed by Berry, Hay, Sellards, Shufeldt, and Vaughan.

The Question of the Zodiac.—In *Am. Anth.* XIX, 1917, pp. 518-532 and in *Proceedings of the Nineteenth International Congress of Americanists*, Washington, 1917, pp. 211-219 (3 pls.), STANSBURY HAGAR contributes the latest papers affirming the existence of a zodiac in America, while HERBERT J. SPINDEN in *Am. Anth.* XVIII, pp. 53-80 (3 figs.), presents the other side. In brief, Hagar contends that there is present in America a zodiac and that this was derived from the old world. Spinden, on the other hand, denies the existence of any such zodiac. The discussion depends upon the interpretation of Maya and other manuscripts and certain figures on the prehistoric monuments of middle America as well as the statements of the early historians of American native peoples. Spinden gives a bibliography of thirty-three articles of which ten have appeared during the last decade.

The Dragon of Quirigua.—In the *Annual Report of the Smithsonian Institution for 1916*, pp. 447-460 (10 pls.), W. H. HOLMES reprints his paper on the great dragon of Quirigua published in *Art and Archaeology*, IV, 1916, pp. 268-280; V, 1917, pp. 38-49.

American Art.—In *Mus. J.* IX, 1918, pp. 7-28 (colored pl.; 8 figs.), G. B. G(ORDON) describes several pieces of Central American sculpture and a vase from Guatemala as typical specimens of American art.

The Decorative Arts of the Amazon Indians.—In *Mus. J.* IX, 1918, pp. 59-71 (11 figs.), W. C. F(ARABEE) gives an account of the decorative arts of the Amazon Indians describing trinket baskets, beaded aprons, and ceremonial clubs, and explaining the designs employed.

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